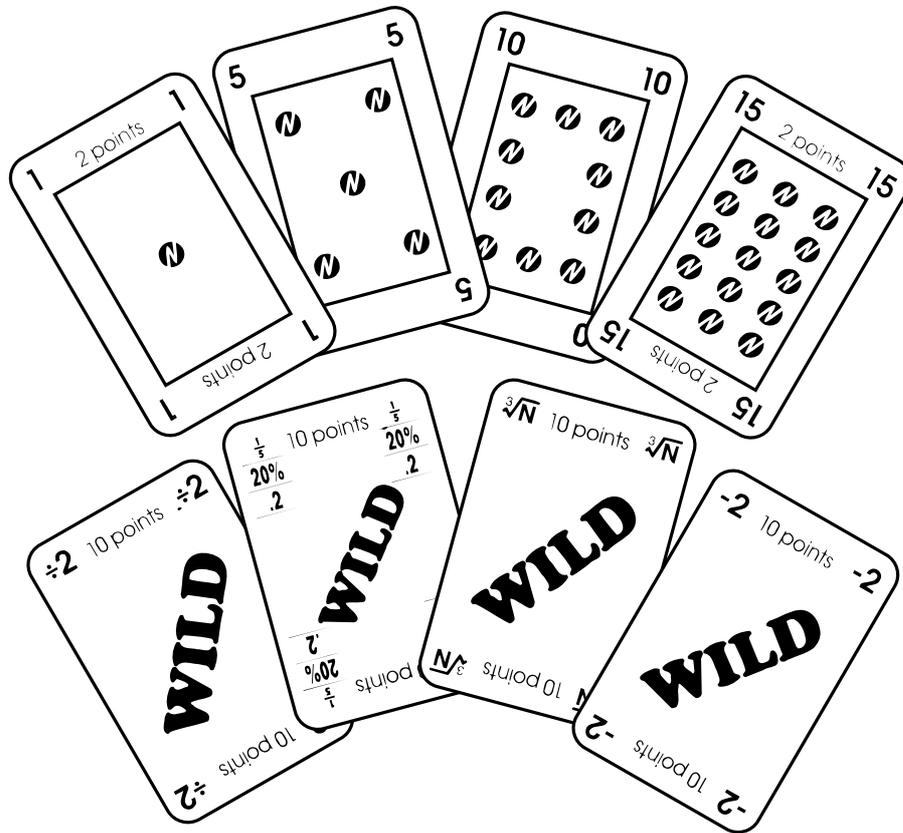


NUMERO

FUN WITH NUMBERS
(Much more than a game!)

THE COMPLETE GUIDE



Written by Frank Drysdale

Published by Prim-Ed Publishing

COPYRIGHT INFORMATION

No part of this book may be reproduced or used in any form or by any means, electronic or mechanical, including photocopying or recording, or by any information storage and retrieval system, without written permission from the publisher.

ISBN 1-86400-480-0

Written by Frank Drysdale

© The Alzheimer's Disease and Related Disorders Association of W.A. (Inc.) 1995

Published by Prim-Ed Publishing 1999

Revised and reprinted by Prim-Ed Publishing 2000

Offices: Australia: PO Box 332 Greenwood, WA, 6924

United Kingdom: PO Box 051, Nuneaton, Warwickshire, CV11 6ZU

Republic of Ireland: Boshreen, New Ross, County Wexford

FOREWORD

NUMERO is a game made purely for fun. It was only after NUMERO had been played by many individuals and started to spread to schools that its educational value was realised. This is now a main feature of this great card game.

NUMERO provides a level of enjoyment that is shared across generations. In its simplest form, it represents the ideal introduction to basic number operations for young children. In its more complex form, it presents real mental challenges to adult minds. In between, there is a variety of stages suited to everyone; the common link being that NUMERO is FUN to play.

NUMERO provides the mental gymnastics that we all require, as well as providing an outstanding learning tool for children developing mathematical skills.

NUMERO may be played at many different levels, depending on the age and ability of those playing—but *everyone* should progress through the levels when learning how to play. This guide can be used by the individual player or for teachers and facilitators working with groups of users. It sets out, in simple form, the basics of the game, then expands to show how the game of NUMERO can be carried right through to become an enjoyable challenge for more able students and adults.

NUMERO is simple to play. There are three GOLDEN RULES which apply to all stages of the game. As with any game, the more it is played the more capable people become. With NUMERO, playing the game not only provides an opportunity to develop basic mathematical skills, but also develops powerful thinking and problem-solving skills and strategies. A compact disc or video is provided with the Introduction to NUMERO, and gives an excellent pictorial representation of the rules of the game.

CONTENTS

Numero in the Classroom	5
Level 1	8
Teaching Numero—Comments on moves for Level 1 demonstration	12
Level 2	16
Teaching Numero—Comments on moves for Level 2 demonstration	19
Level 3	21
Using Fractions	23
Level 4	
Scoring	26
Tactics	30
Tactical Discarding	33
Powers and Indices	34
Solitaire	35

THE NUMERO PACK

Each pack of NUMERO contains the following cards.

1. 4 sets of Number Cards, 1–15 (Red, Blue, Green, Orange)
2. 4 Subtraction Wild Cards
3. 4 Multiplication Wild Cards
4. 4 Division Wild Cards
5. 13 Fraction/Percentage/Decimal Wild Cards
6. Square, Cube, Square Root and Cube Root Wild Cards
7. 2 Blank Cards (in case of loss)
8. 2 Bonus Point Check List Cards

NUMERO IN THE CLASSROOM

While NUMERO has proven to be very popular purely as a game for all ages from 6 to 80+, teachers soon realise that it is much more than a game. Indeed, as a teaching technique, teachers and principals have hailed it as ‘transforming’.

However, to make the best use of NUMERO in the classroom, we would pass on the findings of experienced NUMERO enthusiasts.

1. REGULARITY OF USE

Those who see NUMERO primarily as a game, tend to think of larger blocks of time—40 minutes or longer, once a week. The best results though, with teachers seeing NUMERO as a teaching technique, rather than ‘just a game’, have come from virtual daily sessions of anything from 12 to 20 minutes. (We are all familiar with dart players at the ‘local’, where regular use means that the moment a dart hits the board they know what number is needed for the next throw.)

This regular use, however, does bring up the question of time allocation. If too much time is used for preparation or packing up, this will certainly restrict its use. (Any teaching aid that requires lengthy preparation will soon be consigned to the bottom shelves of cupboards!) If, at the end of a NUMERO session, children have to resort their packs, removing Wild Cards, this must detract from its effectiveness, popularity and use. Of course, if sets of NUMERO have to be shared among various classes, this problem must be coped with. Where a class has its own set, the benefits of NUMERO are much more evident.

2. NUMBERING OF PACKS

As soon as a school receives its cards, all packs should be numbered. That is, all cards in one pack will be numbered ‘1’, another ‘2’ and so on. Further, we suggest that different class sets should be identified, so that one class would use, say, a black marker, another red, and so on. Then, if cards happen to be dropped on the floor, or even outside, the number will tell immediately to which class set and which pack it belongs.

Numbering packs may be a rather onerous task, but the effort spent will be saved many times over.

NUMERO readily caters for different ability levels in the one classroom so that while one pair might be playing with Number Cards only (using addition only), others could also incorporate subtraction, others multiplication and division, and others fractions.

If the packs are numbered, and a class has its own set, at the end of the allotted time, the teacher may just say... ‘All stop playing. Put your hands down on your desks. Pick up the stack of cards you have won. Count them to see who has won your game, then put all your cards straight back into your pack.’

The packs are then collected in just a few moments, and the class can continue with the rest of the mathematics lesson or whatever. At the next NUMERO session, each pair is simply given the same numbered pack, containing the Wild Cards they are using.

So, without any wasted time, all students are immediately able to begin playing, at the correct level for their ability.

3. TIMING OF USE

Some advocate the regular use of NUMERO at the beginning of the mathematics lesson, with many teachers using it in place of the traditional 'Mental Arithmetic'—some claiming 'My students do as many calculations in one session of NUMERO, as they would do in a full week of traditional mental!'

However, other teachers have recently explained how they use NUMERO on a daily basis for about 15 minutes at the *end* of the mathematics lesson. These teachers tell us how students are quick to let them know when it's time for NUMERO, and say that their mathematics lessons have never been so productive, as children do their best to ensure that nothing delays their NUMERO time!

4. CHALLENGES, RECORDS ... AND MOTIVATION GENERALLY!

Class teachers have used NUMERO in a wide variety of ways, with great success.

- (i) *A NUMERO LADDER* (or 'BUMPING BOARD'): Names are placed in a list in random order, and children may challenge the name one or two positions above them, changing places on the Ladder if the challenger wins. (Others just have regular competitions, to get a 'Class Champion' in each Term.)
- (ii) *INTER-CLASS COMPETITIONS*: These have proved popular, where class members are graded into two divisions, and then pairs are drawn at random. Great prestige is felt by the class that wins most games and becomes 'Champion Class'!
- (iii) *CLASS RECORDS*: A NUMERO corner on the blackboard shows BEST TAKES (number of cards won—or at higher levels, points scored—in a single TAKE). HIGHEST SCORE (number of cards won—or at higher levels, points scored—in a full game).
- (iv) *CHALLENGES*: In Western Australia, a regular 'Numero Challenge' in the newspaper (working out the best play from a set situation) has been extremely popular—not only with children, but adults of all ages. This could be done most effectively on a school or even class basis, where the teacher sets the challenge weekly and children work out their best solutions. One with even greater potential is where children are encouraged to set challenges for the rest of their class, having already worked out the 'best play'. If a number of students prepared separate challenges for the class, the challenge that had least children able to work out the 'best play' would be declared the 'Top Challenge'.
- (v) *NUMERO CLUBS*: Students in both primary and secondary schools are now enjoying lunchtime NUMERO clubs, where students from a mix of classes, join together—not 'doing Maths' but 'having fun!'. Adults too are now showing that NUMERO is not just a game for children, nor just a teaching strategy for the classroom, but a challenging and fulfilling game, in adult NUMERO clubs.

5. **TEACHING JUNIOR PRIMARY**

Some teachers of Junior Primary classes have found that though children really love playing NUMERO once it has been learned, the easiest way to teach it is in small groups, or with parent helpers where possible. Others have used the 'Buddy System', bringing older children in to play NUMERO with the younger children on a one-to-one basis. This serves to clarify rules even more clearly with the older children, as well as boosting their self-image.

6. **VERBALISING**

This aspect of NUMERO is seen to be so important by some teachers that they have instituted a 'Class Rule' that if children forget to say the BUILD aloud, it is disallowed and the card/cards used, separated as DISCARDS.

TEACHING AIDS

1. The NUMERO instructional CD (or video) is an invaluable aid for teachers—not so much for classroom use as for teacher preparation. As a teacher is ready to take a class, or individual children, to the next level of NUMERO, it enables that teacher to ensure that he/she knows each level thoroughly, before introducing it to the children.

The video may, of course, be used with the class, but it is important that you don't just let them watch the whole video, or they will be more confused than they were to start with. Show them only the relevant section, referring to the level that you wish them to learn, and even then, be alert to stop the video at any point to ask or answer questions.

2. The NUMERO Rules Chart—in one form or another—should definitely be visible when introducing a class to NUMERO. These rules may just be printed on the board, or our Rules Chart displayed, but one way or another, it is imperative that the rules are clearly visible while children are learning the game.

LEVEL 1

In this introductory level, we use Number Cards only, and the only operation used is addition. For the first few levels, ignore the point values printed on some of the cards, as well as the different colours. These become important later.

NUMERO is best learned as a game for two, but apart from the solitaire form (see page 35), can be played with up to four players.

Five cards are dealt face down alternately to each player and two cards are turned face up in the centre. The remaining stack is also placed in the centre.

Note: This is the only time cards are played from the stack into the centre. From this point on, the stack is used only to restore each hand to five after every turn.

The purpose of the game in the early levels is simply to win as many cards as possible. The non-dealer has first turn (or the player on the left of the dealer, if more than two).

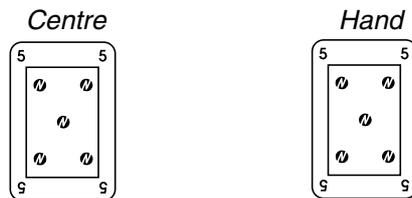
Cards are won by doing what is called a TAKE, when a single card from the hand is matched to the same number in the centre. This could be a single card or a combination of cards from the centre, but always a single card from the hand.

GOLDEN RULE No. 1

Each turn, play a single Number Card only from the hand,
either a TAKE;
or a BUILD;
or a DISCARD.

A TAKE

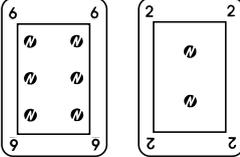
The simplest TAKE would be just to match a card from your hand to a single card of the same number from the centre.



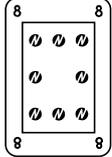
The 5 from the hand is played onto the 5 from the centre. Both cards are then placed face down on the table in front of you. These cards are now out of the game and you restore your hand to five from the stack.

A better TAKE would be to match a single card from your hand to a combination of cards from the centre—so, whenever it is your turn **always add together the cards in the centre** to see if it gives you a better TAKE. Remember, adding the cards in the centre does not end your turn. You must always play a card from your hand.

Centre



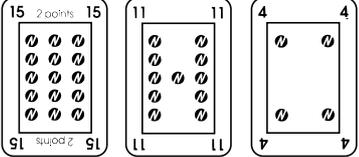
Hand



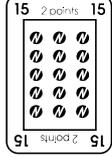
The 8 from the hand wins the 6 + 2 from the centre.

An even better play would be for the single card from your hand to do multiple TAKES, winning two or more sets of that number from the centre (there is no limit to the number of sets that can be taken).

Centre



Hand



The 15 from the hand wins both the 15 and the 11 + 4 from the centre.

A BUILD

It is not always possible to TAKE. If you can not TAKE, you try to BUILD. A BUILD is when a card from the hand is added to a single card, or combination of cards, from the centre—but take note of:

GOLDEN RULE No. 2

When a BUILD is made, the answer to that BUILD must be held in the hand, in a single card.

Centre *Hand*

The 2 from the hand is played onto the 4, for a build of 6—only valid because the 6 is held in the hand.

That is, a BUILD is a preparation for a TAKE in a later turn, but **can not** be done in the same turn as the BUILD (*Golden Rule No. 1*).

A BUILD uses one Number Card only from the hand, but may use any combination of cards from the centre.

Centre *Hand*

The 3 from the hand is added to the 4 + 5 from the centre, for a BUILD of 12.

The next player may TAKE this BUILD, if also holding a 12, or may add to it for a different BUILD, but can not TAKE nor use only part of the BUILD.

Centre *Hand*

So the 1 could be added to the BUILD, for a new BUILD of 13.

Remember

After every turn (TAKE, BUILD or DISCARD), you must restore your hand to five from the stack.

A DISCARD

If you can neither TAKE nor BUILD or, for tactical reasons, you decide not to, you must DISCARD, playing a card from your hand separately into the centre.

What do you DISCARD?

If possible, you DISCARD a card you hope to use in a later turn. So, if you have a 7, 8 and 15, you might DISCARD the 7, intending to add the 8 to it on your next turn, for a BUILD of 15, hoping to TAKE with your 15 in the next turn (provided your opponent doesn't TAKE it or BUILD onto it). If there is no such obvious DISCARD ready for a later BUILD, a good rule in the early stages is just to DISCARD one of your lower cards, which might enable a BUILD on a later turn. Or, if you have, say, two 8s in your hand, you could DISCARD one of them. If your opponent doesn't TAKE or BUILD onto it, you could TAKE it in your next turn, simply by matching it with your remaining 8, to win both cards. Knowing the best card to DISCARD becomes more important and tactical at the higher levels of the game. This is covered in more detail later in this book.

SIMPLIFIED Level 1

For younger or less able children, we suggest that, to start with, cards 1–10 only are used, not moving on to the higher numbered cards until the rules are thoroughly understood.

END OF GAME

When one player finally runs out of cards, the other player is given one final chance to play, if able to TAKE. Either way, any cards left in the centre go to the player who made the last TAKE. Any cards left in a player's hand are a penalty, and that number of cards must be subtracted from the stack of cards won before counting to decide the winner.

TEACHING NUMERO

COMMENTS ON MOVES FOR LEVEL 1 DEMONSTRATION

Preparation

An average-sized class can watch a demonstration if several desks are joined together, the teacher and an 'opponent' are seated either side, with the students gathered round—the front ones kneeling and the remainder standing. A pack prepared in advance, as shown at the top of page 13, enables all relative rules and teaching points to be demonstrated as quickly and smoothly as possible.

You will often have to explain 'dealing'—sharing cards out alternately, face down, starting with your opponent.

Explain, too, that you hold your cards so your opponent can't see them. Although you must display the cards in each hand when discussing the play, to make it as realistic as possible, turn each hand face down after each move and turn it face up only when it is time for that hand to play.

The non-dealer has the first turn.

PLAY 1

Really stress the tactic of adding together any cards in the centre, even if holding a card matching one of the cards in the centre. It then becomes clear that your 13 could match the 10 + 3. Emphasise:

- (i) Adding cards from the centre, does **not** complete your turn. You **must** play a card from your hand every turn.
- (ii) Say '10 + 3 = 13' (**this verbalising is vital later, so insist on it right from the beginning**).
- (iii) Show your partner your TAKING card (13).
- (iv) The 10, 3 and 13 are then placed face down in front of you, beginning your TAKE stack ... not in your hand.
- (v) After every turn, restore your hand to five cards from the pack (that is placed where both players can easily reach). If this is forgotten by beginners, restore your hand to five whenever you remember.

PLAY 2

If ever you can not TAKE or BUILD, either because your cards don't match those in the centre, or (as in this case) there are no cards left in the centre, you must DISCARD. (**Never** turn up more cards from the pack!)

What to DISCARD?

- (i) If you have two cards of the same number, DISCARD one of those.
- (ii) If two of your cards, add up to a third card in your hand, DISCARD one of the two, hoping to BUILD the other onto it in your next turn.
- (iii) If neither of the above applies, or you are in any doubt, DISCARD your lowest card.

Basically, you DISCARD a card you think you have a good chance of using in a later turn.

'SEQUENCE OF PLAY' for Level 1 Demonstration (Number Cards only)

Order of cards for dealing:
4, 8, 1, 13, 5, 9, 13, 14, 2,
15, 10, 3, 12, 2, 11, 3, 15,
7, 10, 4, 14, 6.

Non-dealer	Centre	Dealer
<p>4 1 5 13 2</p> <p>Play 1: Always add together the cards in the centre. ($10+3=13$). Take with your 13. Restore hand to five from the pack. (12)</p>	<p>10 3</p>	<p>8 13 9 14 15</p>
<p>4 1 5 12 2</p> <p>Play 3: Add 4 to the 8 for a build of 12 to match the 12 in your hand. Restore hand. (11)</p>	<p>8 4</p>	<p>Play 2: With no cards in the centre you must discard. No two cards in your hand add up to a third card, so discard 8, as the lowest card. Restore hand. (2)</p>
<p>11 1 5 12 2</p> <p>Play 5: You can not do anything to the 14. In your hand you have 11 and 1, as well as 12. The 11 is a much safer discard than the 1. Restore hand. (15)</p>	<p>8 4 2</p> <p>11 8 4 2</p>	<p>2 13 9 14 15</p> <p>Play 4: Add 2 to the build of 12, changing it to 14 to match the 14 in your hand. Restore hand. (3)</p>
<p>15 1 5 12 2</p> <p>Play 7: With your 1, you can change either build of 14, to 15. Choose the build with three cards instead of 2. Restore hand. (10)</p>	<p>11 3</p> <p>8 4 2</p> <p>11 8 4 2</p>	<p>3 13 9 14 15</p> <p>Play 6: You could win the build of 14, but decide to add your 3 to the 11 for a second build of 14, hoping to win both builds next turn. Restore hand. (7)</p>
<p>15 10 5 12 2</p> <p>Play 9: Unable to use the build of 14, look in your hand for cards that 'fit together'. $10+2=12$, and the safer discard is 10. Restore hand. (14)</p>	<p>11 3</p> <p>8 4 2</p> <p>11 8 4 2</p>	<p>7 13 9 14 15</p> <p>Play 8: 'Thank you very much!' Take with your 15. Restore hand. (4)</p>
<p>15 14 5 12 2</p> <p>Play 11: Take both builds with your 14. Your opponent left the 14 a little too long!</p>	<p>10 4</p> <p>11 3</p> <p>10 4 11 3</p>	<p>10 11 3</p> <p>Play 10: You could take the 14, but again decide on a second build, playing your 4 onto the 10. Restore hand. (6)</p>
	and so on...	

PLAY 3

Look to see if you can TAKE. You can't, so see if you can add a card from your hand, to a card in the centre (a BUILD) that matches another card in your hand. (Golden Rule Number 2: If you BUILD, you **must** have the answer in your hand in a single card.) You can, so play your 4 onto the 8, overlapping it so you can see both cards and say: '8 + 4 = 12'.

PLAY 4

You can not TAKE, but you can BUILD further, playing your 2 onto the 8 and 4, saying '12 + 2 = 14'. (This is valid, only because you have a 14 in your hand.)

PLAY 5

All your cards are below 14, so you can't do anything to the BUILD. (You can not break up a BUILD!) So all you can do is DISCARD. You have an 11, 1 and 12, so you can DISCARD a card that you plan to BUILD onto next time to make 12. The higher of these two cards (11 and 1) is your safer DISCARD, as it doesn't offer as many chances to your opponent. DISCARD 11 as a separate card into the centre – *not* attached to any other cards.

PLAY 6

You could now win the BUILD of 14 and many will decide to do so. However, because the one TAKING card from your hand can win any number of BUILDS of that amount, it is sometimes worth taking a risk; leaving your previous BUILD as it is and adding a 3 to the 11 in the centre for a second BUILD of 14 – hoping to win both BUILDS at the same time in your next turn.

PLAY 7

You can now add 1 to either BUILD of 14 to change it to 15 and you may do this as you have a 15. It is better to add it to the BUILD consisting of three cards.

PLAY 8

You are in the good position of being able to TAKE either BUILD – the 14 or 15. In this situation, it is always better to TAKE the BUILD completed by your opponent as you know that he or she must have the card to TAKE that BUILD. TAKE the 15.

PLAY 9

You can still do nothing to the BUILD of 14. Look at your cards: $10 + 2 = 12$ or $10 + 5 = 15$, so you can prepare to BUILD either number. Your safest DISCARD is 10, which also allows you to decide next time which BUILD you will make, if it is still there.

PLAY 10

You can obviously TAKE the 14 BUILD, but might decide to play your 4, to add to the 10, for a second 14 BUILD, again hoping to do two TAKES on the next turn.
BUILD $10 + 4 = 14$.

PLAY 11

Your lucky day! Picking up a 14 means *you* can now TAKE both BUILDS as your opponent took one risk too many! Of course you should say 'Thank you very much!'.

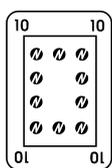
LEVEL 2

The four Subtraction Wild Cards (-2, -3, -4, -5) are now added to the pack, enabling subtraction as well as addition to take place. This requires the third and final rule.

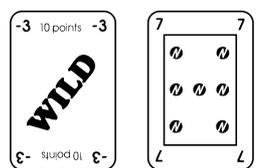


This greatly increases your ability to BUILD and TAKE.

Centre



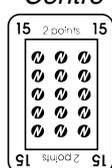
Hand



The -3 Wild Card is played onto the 10, to make 7, and with your extra turn you could TAKE with your 7.

If your extra turn following a Wild Card is also a Wild Card, you have another turn—but the rule about one Number Card from your hand every turn never alters.

Centre



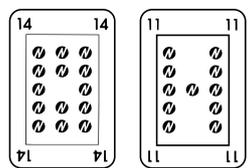
Hand



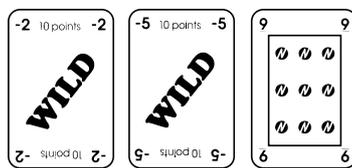
Your -5 onto 15 makes 10, and the -4 brings this to 6, which you would TAKE with the 6 from your hand.

You may play Wild Cards onto different cards in the centre.

Centre



Hand

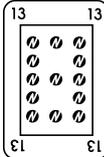


Your -5 brings the 14 to 9; the -2 brings the 11 to 9; and you would TAKE both sets with the 9 from your hand.

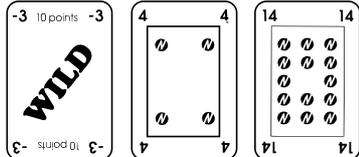
Of course, after every turn you restore your hand to five from the pack.

Even with Wild Cards you still can't always TAKE, and sometimes you might use them as a two- or three-stage BUILD.

Centre



Hand



Your -3 brings the 13 to 10, and with your extra turn, your 4 completes a BUILD of 14.

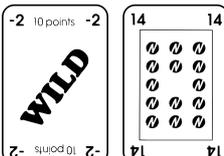
Playing a Number Card from your hand, however, always ends your turn, and the BUILD would have to stay in the centre until your next turn, provided it was not taken or built further by your opponent.

Beginners are sometimes confused if one of the two cards turned up in the centre, at the start of the game, happens to be a Wild Card. However, this makes no difference to the rules of play.

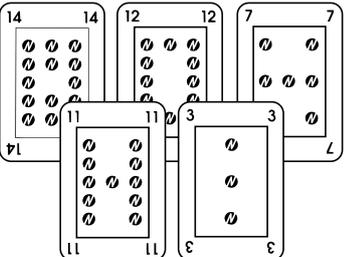
At Level 1, we showed that if there is a 6 and a 2 in the centre, you could TAKE them with an 8 from the hand. (That is, you add together, the cards from the centre.)

So, in Level 2, if you have a Wild Card in the centre, just add the cards together (if one of them is a Subtraction Wild Card, this means you subtract).

Centre



Hand



Obviously, you could take the 14 from the centre, with your 14, but the better move would be to join the 14 and -2 from the centre, and TAKE with your 12.

You might even have two Wild Cards in the centre, but without a Number Card in the centre you can not TAKE. However, you might be able to BUILD.

Centre

Hand

Possible Builds:

1. 14 onto the -2 (because you have a 12).
2. 12 onto the -5 (because you have a 7).

However, the best BUILD would be:

3. Join the -2 and -5 (to make -7) and add 14 (because you have a 7).

Note: Remember in all these BUILDS that you have played your Number Card, ending your turn. (The Wild Cards in the centre were not played from your hand.) You can not now TAKE, but must wait until your next turn.

DISCARDING

Wild Cards make a difference to your DISCARDING. If you held a 14, 12 and -2, you might DISCARD the 14, hoping to play -2 onto it, and TAKE with your 12 in your next turn (provided, of course, that your opponent did not TAKE or BUILD it to something else).

If you don't have an obvious play like this, a good guideline is still to DISCARD your lowest card, giving you a chance to add to it in later turns—but as you get to know the game better, tactics will have a big bearing on what you DISCARD.

COMMENTS ON MOVES FOR LEVEL 2 DEMONSTRATION

Preparation

Demonstrate that if a 6 is in the centre, and you play a 4 onto it, this makes 10. Playing the 4 of course ends your turn, and you would have to leave your BUILD in the centre until your next turn, and hope that your opponent can't TAKE it.

If, however, you play a -4 onto the 6, this obviously makes 2. But there is more! Golden Rule No. 3 says, if you play a Wild Card (all 'operation' cards have the word 'WILD' clearly printed on them) from your hand, it gives you an extra turn. So, with this extra turn, you may play your 2 and TAKE, for three cards.

Note: Now you would have to pick up two cards from the stack, to restore your hand to five.

Prepare the pack as shown on the following page and, again, the non-dealer has the first turn.

PLAY 1

Verbalising ' $13 \text{ minus } 2 = 11$ ', you play the -2 Wild Card onto the 13, and TAKE with your 11. Then you would need to pick up two cards from the stack, to restore your hand to five cards.

PLAY 2

With only the 6 in the centre, the dealer can not TAKE, but would add a 4 to the 6 for a BUILD of 10, because a 10 is held in the hand.

PLAY 3

The non-dealer can not TAKE either, but would add a 2 to the BUILD of 10, to make 12, as a 12 is held in the hand.

PLAY 4

Again unable to TAKE, the dealer makes a different use of a Wild Card, using it as part of a two-stage BUILD; ' $12 \text{ minus } 4 = 8$, and $8 \text{ plus } 1 = 9$ '. That is, the extra turn provided by playing the Wild Card allows a number card to be played to complete the BUILD to equal a card held in the hand.

Note:

1. When using a Wild Card as the first step of a multi-stage BUILD, you don't need to have in your hand the Number Card equal to each stage of your BUILD—only the number at the end of your turn.
2. However, having played a Number Card to complete the BUILD, you can not now play another Number Card to TAKE. Your turn is over, and you have to hope that your opponent can not TAKE.

PLAY 5

Unable to TAKE, you add a 3 to the BUILD of 9, to change the BUILD to 12 again.

PLAY 6

Having another Wild Card, a -3 , you would play this onto the BUILD; ' $12 \text{ minus } 3 = 9$ '. Then, with your extra turn, you would TAKE with your 9, to win eight cards.

Wild Cards do make a difference!

‘SEQUENCE OF PLAY’ for Level 2 Demonstration (Including Subtraction Cards)

Order of cards for dealing:

7, 4, 3, 10, 2, -4, 11, 1, -2, 9, 13, 6, 15, 12, 14, 11, -3, 7, 14.

Non-dealer	Centre	Dealer
<div style="display: flex; justify-content: space-around; font-size: 1.2em;"> 7 3 2 11 -2 </div>	<div style="display: flex; justify-content: space-around; font-size: 1.2em;"> 13 6 </div>	<div style="display: flex; justify-content: space-around; font-size: 1.2em;"> 4 10 -4 1 9 </div>
<p>Play 1: Play -2 onto 13 and TAKE with 11. (Extra turn given by playing a Wild Card, allows the TAKE.) Restore hand to five. 7, 3, 2, 15, 12</p>	<div style="display: flex; justify-content: center; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin: 2px;">6</div> </div>	
	<div style="display: flex; justify-content: center; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin: 2px;">6</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">4</div> </div>	<p>Play 2: Can not TAKE, so plays 4 onto the 6 for a BUILD of 10. Restore hand to five. 14, 10, -4, 1, 9</p>
<p>Play 3: Play 2 onto the 10 BUILD for a BUILD of 12. Restore hand to five. 7, 3, 11, 15, 12</p>	<div style="display: flex; justify-content: center; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin: 2px;">6</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">4</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">2</div> </div>	
	<div style="display: flex; justify-content: center; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin: 2px;">6</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">4</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">2</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">-4</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">1</div> </div>	<p>Play 4: Play -4 onto the 12 BUILD, making 8. Then with your extra TURN, add 1 for a BUILD of 9. Restore hand to five. 14, 10, -3, 7, 9</p>
<p>Play 5: Add 3 to the 9 BUILD for a BUILD of 12. Restore hand to five. 7, 14, 11, 15, 12</p>	<div style="display: flex; justify-content: center; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin: 2px;">6</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">4</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">2</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">-4</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">1</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">3</div> </div>	
		<p>Play 6: Play -3 onto the 12 BUILD, making 9. With your extra turn, play your 9 and TAKE all cards in the centre.</p>

LEVEL 3

There are no more rules to learn, but NUMERO is made much more interesting/challenging/complex by including in your pack the Multiplication and Division Wild Cards. Again, you may choose when to introduce these cards, and may add them all at once, or, for example, start with the x2 only and gradually include the others. Then all you have to remember is that you may use any cards from the centre (Number or Wild), and any Wild Cards from your hand, **but only one Number Card from your hand.**

Centre

Hand

The x5 onto the 4 = 20, and the -5 brings this to 15, to TAKE with your 15.

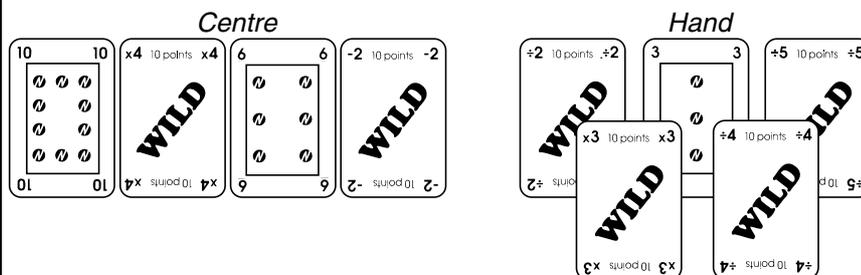
Your TAKES can now become much more complex. At first you probably won't see the best moves, but simply do the best you can. The more you play, the more complex the moves you will be able to see.

Centre

Hand

1. A real beginner might see only the matching of the two 4s, to win two cards.
2. Better would be to add the 6 + 4 from the centre, to win with your 10, for three cards. Using the Wild Cards, however, greatly increases your options.
3. So, the -2 onto 6 = 4, allowing you to win two sets of 4, with your 4, for four cards.
4. Playing your ÷4 onto the 4 in the centre lets you TAKE with your 1, to win three cards.
5. You could combine the last two moves, with -2 onto 6 = 4, and ÷4 onto 4 = 1, to win with your 1, again winning 4 cards.
6. Play -2 onto 4 = 2, and then x5 onto 2 = 10, to TAKE with your 10, to win four cards.
7. Better still, having used those first two moves to create 10 in the centre, instead of taking with your 10, you could add the 6 from the centre = 16, and play your ÷4 to make 4, winning this with the 4 from your hand, for six cards.
8. Equally rewarding could be to add the 6 + 4 = 10, which -2 would bring to 8, ÷4 to 2, and then x5 would make 10 to win with your 10. (In this latest move, having arrived at 8, you could say $8 \times 5 = 40$ and then $40 \div 4 = 10$. That is, you can go far beyond 15, part way through your move, provided you are eventually able to bring it back to equal a Number Card held in your hand.)
9. There is another interesting play possible for the upper Primary grades, or higher, involving the multiplying of a negative. Play ÷4 onto 4 making 1; -2 onto this 1 makes -1; x5 onto -1 = -5 and playing this -5 onto the 6 makes 1. TAKE with you 1 for a third way of winning the maximum six cards.
Note that this play is very helpful if you have only low numbers in your hand.

ZERO IS NOT NOTHING!



Even with only one Number Card in your hand, so that you may TAKE only with your 3, the total of six Wild Cards available means that a wide variety of different moves are now possible.

However, without doubt, the best move involves the use of ZERO.

- (i) $10 \div 5 = 2$
- (ii) $2 - 2 = 0$
- (iii) $0 \times 4 = 0$
- (iv) $0 \div 4 = 0$
- (v) $0 \times 3 = 0$
- (vi) $0 + 6 = 6$
- (vii) $6 \div 2 = 3$

TAKE with your 3, to win **all** cards.

Notice that to make use of this play, two situations are needed:

1. a number in the centre that you can TAKE ($6 \div 2 = 3$; TAKE with 3); and
2. a number in the centre that you can bring to zero ($10 \div 5 = 2$ and then $2 - 2 = 0$).

Then, play onto the zero any \times , \div , or later, Fraction Wild Cards, and it stays zero. Add to the zero the number you can TAKE and your move is complete.

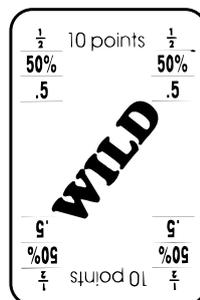
USING FRACTIONS

As soon as Division Cards are understood by the children, begin including the Fraction Cards with a numerator of 1 ($\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{8}$, $\frac{1}{10}$) asking questions such as:

'What is $\frac{1}{2}$ of 8?' 4

'How did you get that?'

Divide the 8 by the bottom number of the fraction.



They soon master these cards using them as Division Cards only, but overcoming the common 'fraction phobia'. (They love the 'magic' of adding numbers such as $15 + 13 + 12 = 40$ and then playing the $\frac{1}{10}$, to TAKE with 4.)

Only when these are well understood, do you move on to fractions with a numerator of more than 1, using the following approach.

1. 'What is $\frac{1}{4}$ of 8?' 2 (*Do this visually as well as verbally.*)
2. 'How did you get it?' Divided the 8 by the 4.
3. 'Now, what is $\frac{3}{4}$ of 8?' 6
4. 'How did you get it?' ('Think' it through aloud.) 'Divide the 8 by the 4, to get 2'. Then 'You must multiply the 2 by the 3, the numerator (top number of the fraction), to get 6'.
5. So, to use fractions: Divide by the bottom number and multiply by the top number. Try the following:

$\frac{2}{3}$ of 6	$\frac{3}{5}$ of 10
$\frac{2}{5}$ of 5	$\frac{4}{5}$ of 20
$\frac{3}{4}$ of 8	

Remember, you don't have to introduce all of these cards at the same time. If one or more causes problems, leave it out for a while; play with the ones you're confident with and add the others later.

Note: Certainly postpone the $1\frac{1}{2}$ (150%) and $2\frac{1}{2}$ (250%) until much later!

Remember, you can use the Percentage and Decimal 'languages' instead, if you wish, using the same cards.

Example 1

Centre

Hand

1. Apart from just matching the 2 from the centre, with the 2 from your hand, the other simple play would be:
 - (i) Play $\frac{1}{5}$ onto 5 = 1
 - (ii) Add 2 from the centre to 1 = 3
 - (iii) TAKE with your 3 winning four cards.
 However, by combining cards from the centre, other plays become possible.
2.
 - (i) Add 2 and 6 = 8
 - (ii) Play $\frac{1}{4}$ onto 8 = 2
 - (iii) TAKE with your 2, to win four cards.
3.
 - (i) Add 7 and 5 = 12
 - (ii) Play $\frac{1}{4}$ onto 12 = 3
 - (iii) TAKE with your 3, to win four cards.

Better, is

4.
 - (i) Add 7, 6 and 2 = 15
 - (ii) Play $\frac{1}{5}$ onto 15 = 3
 - (iii) You could TAKE with your 3 to win five cards, but a better move would be to now add in the remaining card from the centre: 3 + 5 = 8.
 - (iv) Play $\frac{1}{4}$ onto 8 = 2
 - (v) TAKE with your 2 to win seven cards.

There is an even easier way of winning the maximum seven cards by doing something you should always try – adding together all the cards in the centre.

5.
 - (i) Add 2 + 6 + 7 + 5 = 20
 - (ii) Play $\frac{1}{4}$ onto 20 = 5
 - (iii) Play $\frac{1}{5}$ onto 5 = 1
 - (v) TAKE with your 1, to again win seven cards.

(Note: All this happens in a single turn, as you used only one Number Card from your hand in each case.)

Once you can include Fraction Cards with a top number (numerator) of more than 1, you give yourself many more choices.

Example 2

Centre

Hand

1. (i) Play -5 onto $13 = 8$
(ii) Play $\frac{1}{4}$ onto $8 = 2$
(iii) TAKE with your 2, to win four cards.

Better, is:

2. (i) Add 15 and 13 = 28
(ii) Play $\frac{1}{4}$ onto 28 = 7
(iii) Play -5 onto 7 = 2
(iv) TAKE with your 2, to win five cards.

Remember! Don't do the first TAKE you see. Always look to see if there is a better move available. So, if you can use your $\frac{1}{4}$, can you use the $\frac{3}{4}$?

The best play is:

3. (i) Add 15 and 13 = 28
(ii) Play $\frac{3}{4}$ onto 28 = 21
(iii) Add 11 to 21 = 32
(iv) Play $\frac{1}{4}$ onto 32 = 8
(v) Play -5 onto 8 = 3
(vi) TAKE with your 3, to win seven cards.

LEVEL 4: SCORING

Using the same Wild Cards as in Level 3, the aim of the game now is to score the most points rather than simply win the most cards.

The rules of play do not alter, but playing to score points does mean that *tactics* become much more important.

A simple score sheet is now required.

NUMERO SCORE SHEET			
Frank		Joan	
Bonus Points	TAKES	Bonus Points	TAKES

TAKES

Now every individual TAKE scores one point in the 'TAKES' column, recorded in tallies of 5 (e.g. IIII I). So, at the end of the game, the number of TAKES recorded is immediately available.

Bonus Points

By far the most points are scored as bonus points. 'Easy Check List for Bonus Points', (each pack has two cards) to use while players become familiar with the scoring system.

To simplify scoring, it is better to follow a set pattern.

Record TAKES first—remembering that if multiple TAKES occur in a single turn, each individual TAKE scores a point.

NUMERO Easy Check List for Bonus Points	
1. WILD CARDS, 1s and 15s as printed.	
2. A TAKE of 5 cards	2 points
3. A TAKE of 6 cards or more	5 points
4. A TAKE using 3 of (+, -, X, ÷)	5 points
5. A TAKE using all 4 of (+, -, X, ÷)	10 points
6. A TAKE (5 cards or more) including all 4 colours ...	5 points
7. A TAKE (5 cards or more) with only 1 colour	5 points
8. CLEARING THE DECK	5 points
9. Most cards held at the end of the game	10 points

Then spread out the cards in the TAKE (including the Taking Card) and check:

A. Point Values

- (i) 1s, 15s and Wild Cards all have various point values printed on them. If any of these cards are included in a TAKE, score the point values as bonus points.

B. Number of Cards

- (ii) Five cards, including the Taking Card, give two bonus points.
- (iii) Six cards or more, including the Taking Card, give five bonus points.

C. Colours of Cards

- (iv) Provided there are five or more cards in an individual TAKE, and it includes Number Cards of all 4 colours, this gives an additional five bonus points.
- (v) Provided there are five or more cards in an individual TAKE and any Number Cards are all the same colour, this gives an additional five bonus points.
(Notice that there may be several Wild Cards included, but whatever Number Cards there are, they must be of the same colour.)

D. Operations used

Provided there are five or more cards in an individual TAKE:

- (vi) if all four operations are used (+, −, ×, ÷) an additional 10 bonus points are scored; or
- (vii) if any three operations are used, an additional five bonus points are scored.

(Notice that it is easy to check the use of subtraction, multiplication and division, as these require appropriate Wild Cards, but as Wild Cards are not required for addition, this needs to be checked while the move is still in players' minds.)

Note: if you are using the Fraction Cards, bonus points are not given for the number of operations.

E. Clearing the Deck

- (viii) Whenever a move wins all the cards from the centre, an additional five bonus points are scored (whether it be only a single card taken, or many).

F. Most Cards

- (ix) At the end of the game, the player with the most cards scores an additional 10 bonus points.

**Notice, that if a turn involves two or more TAKES, the Taking Card from the hand may be counted only once, but the player may choose which TAKE to include it with.

**Notice too, that if a turn involves two or more TAKES, the bonus points scored for B, C and D (number of cards, colours of cards, and operations used) are based on individual TAKES, not on the whole turn.

END OF GAME WHEN PLAYING FOR POINTS

On page 11 it was explained that any cards left in your hand at the end of the game are penalties and must be deducted from your card total. This always applies. However, if playing for points, and the cards left in your hand include a Wild Card, 15 or 1, the points printed on those cards must be deducted from your Bonus Point score.

Recording Bonus Points

These are best recorded progressively, crossing out the previous total and writing the new. This means that at the end of the game the final figure in the Bonus Points column is simply added to the tally of TAKES, to obtain that player's total score.
Note: Colours are identified by the initial letter (e.g. G = green).

Centre

Hand

Possible Plays:

- Just TAKE the red 11 with your 11. (Score: 1 TAKE)
- TAKE the red 11 and the 8 + 3 with your 11. (Score: 2 TAKES)
- You could also play your x3 onto the 5, making 15, and then the -4 would bring this to 11. (Score: 3 TAKES, plus 25 bonus points: 10 points for each Wild Card used, and 5 points for Clearing the Deck.)
- Your best play would be to get to three sets of 11 as above, combine the two sets with most cards, to make 22, and then play your +2 to bring it back to 11. You would now have two sets of 11 as follows:

You may choose on which 11 you will play your taking card and the obvious one would be the set with six cards.
That TAKE would now have:

Look now at your bonus points:
 7 cards = 5 pts Clearing the Deck = 5 pts 3 Wild Cards = 30 pts
 4 Operations (+, -, x, ÷) = 10 pts
 All 4 colours = 5 pts Total = 55 pts
 This would give you a total of 57. (2 TAKES and 55 bonus points)

Introducing Scoring Progressively

Players may prefer to introduce scoring in stages. You might commence with only TAKES and bonus points A and B (the point values on 1s, 15s and Wild Cards, and the Number of Cards in each TAKE).

The next step could include C (colours of cards) and then D (operations used) etc. You decide at what rate you move on to new levels of play.

TACTICS

As stated earlier, the introduction of scoring immediately makes players' tactics much more important. This is particularly so with regard to Clearing the Deck (five bonus points each time).

Example 1: 'Don't give your opponent easy points!'

Centre

1 2 points 1
12 12
7 7
8 8

Hand

15 2 points 15
4 4
6 6
1 1
14 14
15 2 points 15

Situation:
In your last turn you played the 8 onto the 7 for a BUILD of 15, intending to TAKE with your 15 on your next turn. Your opponent then added a 1 to the 12 in the centre, for a BUILD of 13, obviously intending to TAKE with a 13 in a later turn.

Problem:
If you TAKE with your 15 as planned, your opponent will then TAKE the 13 and gain the extra five bonus points for clearing the deck.

Best Play:
DISCARD another card, preventing your opponent from clearing the deck, and postponing your TAKE until a later turn.

Example 2: 'Poker isn't the only card game where you can bluff!'

Centre

Hand

Situation:
 In your last turn, you DISCARDED the 10, intending to add 4 on your next turn, for a BUILD of 14.
 Your opponent then added 6 to the 9 in the centre, for a BUILD of 15.

Problem:
 The 'obvious' play would seem to be to take your opponent's BUILD with your 15. However, your opponent might then be able to TAKE your 10 and clear the deck, scoring an additional 5 bonus points.

Best Move:
 A little thought shows that your best move would be to do as planned, and add your 4 to the 10, for a BUILD of 14.

Possible Play by Opponent:

- (i) TAKE the 15 (though this is unlikely). You would then TAKE your 14 BUILD, scoring five points for clearing the deck.
- (ii) TAKE your 14. If your opponent held a 14 as well as 15, this would be his or her 'correct' play, but would suit you perfectly, as you would then TAKE the 15 and Clear the Deck.
- (iii) DISCARD. This would be the standard play (note Example 1) to try to stop you Clearing the Deck. However, you could then safely TAKE your opponent's 15, leaving your own 14 for a later turn.
- (iv) If your opponent held a 1, the obvious play would be to add this to your 14 for a second BUILD of 15. You could then play your 15 for two TAKES, and clear the deck.

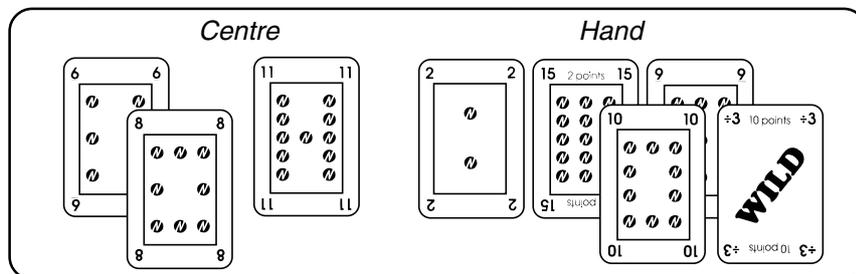
So, whatever play your opponent makes, you can't lose by making the BUILD of 14.

Example 3: 'Illegal' Builds!

Golden Rule No. 2: 'When a BUILD is made, the answer to that BUILD must be held in the hand, in a single card'.

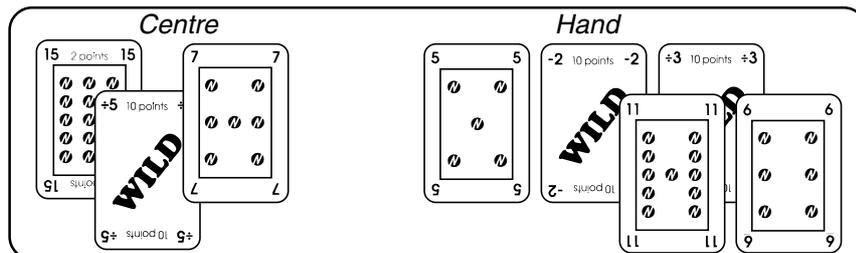
Once you are playing for points, Rule 3 refers to the 'Right of Challenge'. If, for any reason, you think that your opponent may have built, without holding the 'answer', you may 'challenge': 'Show me that...'. If the required card can not be shown (the BUILD was illegal) the offender is penalised 20 points, and the card used in the illegal BUILD is placed in the centre as a DISCARD. (As the rule states, if the card is shown, the challenger is penalised 10 points—detering frivolous challenges.)

However, when playing for points a player might decide that it is worth the risk of being challenged, in order to bluff the opponent into delaying a TAKE.



If your opponent had built to 14, and there was neither a TAKE nor a BUILD that you could do, you might decide to risk a challenge and play your 2 onto the 11, for a BUILD of 13. Your opponent would probably assume that you had a 13, and would be able to Clear the Deck, if he/she took the 14 BUILD, and so would probably DISCARD instead.

That discard, and your own replacement card for the 2, could enable you to retrieve the situation with a further BUILD or TAKE—such as combining the 14 and 13 to make 27, which your +3 would enable you to take with your 9. Here is another situation:



You can't 'legally' do anything to your opponent's BUILD of 10 ($15 \div 5 = 3 + 7 = 10$ worth at least 12 bonus points), so again you might decide to risk a challenge and, for example, add your 5 to the BUILD, to change it from 10 to 15. With two Wild Cards in your hand, you would have every chance of being able to do something on your next turn.

Remember!

If you wish to challenge a play by your opponent, you must do so before your second turn after the play in question. After that, it's too late!

The more you play NUMERO, the more tactical it becomes and the more varied the plays that you will develop to try to trick or bluff your opponent.

Tactical Discarding

The more advanced levels of NUMERO require a more refined understanding of the art of DISCARDING.

This requires a balance between attacking play (discarding to suit your own hand) and defensive play (discarding to make it as difficult as possible for your opponent).

Attacking play is necessary, either when your opponent is well ahead on points and you need to take risks in order to catch up, or when you are so far ahead that it doesn't matter if your opponent scores a few points.

Defensive play is normally adopted when scores are fairly even, and while you don't want your opponent to suddenly score heavily, you can also afford to be patient and wait for something to turn up.

Attacking Play

1. If you have Multiplication Wild Cards you will DISCARD low numbers that give you a better chance of multiplying. If you have mixed numeral Wild Cards (150% or 250%) your DISCARD would need to be a low number. Note: the risk here is that low numbers make it easy for your opponent to combine cards for his/her own BUILDS or TAKES. More specifically, if you hold a x5, a 15 and a 3, the 3 is the obvious discard.
2. If using Fraction Cards, remember these include $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$, $\frac{4}{5}$, apart from the normal $\div 5$ so any 5, 10 or 15 is a risky DISCARD, unless you happen to hold several of those Wild Cards yourself, or remember some have been played—then, it would be a risk worth taking.
3. If holding Division Wild Cards you tend to DISCARD higher numbers, and in particular, numbers that fit your Division Cards. Remembering the risk, however, try to protect yourself where possible (e.g. If holding a -4 , as well as one or more Wild Cards needing a multiple of 5, then a 9 or a 14 would be an excellent DISCARD. Your -4 would bring it to a 5 or 10, when you could then make use of your $\div 5$ or Fraction Wild Card.)

Defensive Play

1. If DISCARDING after your opponent has Cleared the Deck, the perfect DISCARD would be an 11 or 13 (prime number that can not be TAKEN by your opponent, unless holding a matching card, without using either a subtraction card by itself, (of which there are only four or in conjunction with another Wild Card). Not quite as good would be a 7 (still can't use a Division or Fraction Wild Card, but can use a x2).
2. If DISCARDING when there is one card already in the centre, the safest DISCARD is one that, when added to the card already there, will be a number higher than 15 (both can not just be TAKEN by a single Number Card without the help of a Wild Card). If possible, still make a prime number or, at least one that is not compatible with many Wild Cards. (e.g. If there is a 10 in the centre, a 7 would be an ideal DISCARD. By itself, a prime number, and when added to the 10, also a prime number.)

Discarding Wild Cards

If your hand includes four Wild Cards and only a single Number Card that you can not use, DO NOT just DISCARD your sole Number Card. You might easily pick up a fifth wild card, so on your next move you would have to DISCARD all five of them, giving your opponent an early birthday! The best play would be to DISCARD one Wild Card first, and then your Number Card, so you would have two pick-ups and the probability of finishing with five Wild Cards, would be much less.

If you do this make sure, if possible, that you Discard a Wild Card that is not compatible with your Number Card. (Never a Subtraction Card, which can be used on any higher Number Card.) So, a 14 could be used only with a $\frac{1}{2}$ or $\div 2$ while a 12 could be used with $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{3}$, $\frac{2}{3}$, $\frac{3}{4}$, $\div 2$, $\div 3$ and $\div 4$ (eight Wild Cards)—but not with $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$, $\frac{4}{5}$, $\div 5$ group.

Remember! A DISCARD that is helpful to you, will most likely be helpful to your opponent as well. A good player needs to decide when and what risks are worthwhile, and be able to estimate the probability that certain cards could be used by your opponent.

POWERS AND INDICES

These four cards— N^2 (Square), N^3 (Cube), \sqrt{N} (Square Root) and $\sqrt[3]{N}$ (Cube Root)—would be used only by players familiar with these higher levels of mathematical operations. Then their use is self-explanatory. However, even beginners should soon understand that any of these cards (N^2 , N^3 , \sqrt{N} and $\sqrt[3]{N}$) when played onto a 1, leave it at 1. This means that children have an easier way of using these Wild Cards, while gradually becoming more confident of using them on higher numbers. Another easy 'let-out' is to remember that N^2 and \sqrt{N} , both played onto any number, leave it as it is and the same with N^3 and $\sqrt[3]{N}$.

Apart from this, the main ways of using these cards would be:

N^2 played onto: 2 makes 4
3 makes 9
10 makes 100

N^3 played onto: 2 makes 8
3 makes 27
5 makes 125

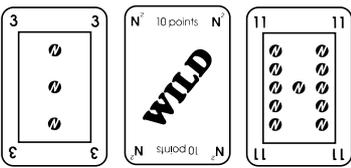
Obviously, the reverse also applies so:

\sqrt{N} played onto: 4 makes 2
9 makes 3
25 makes 5
100 makes 10

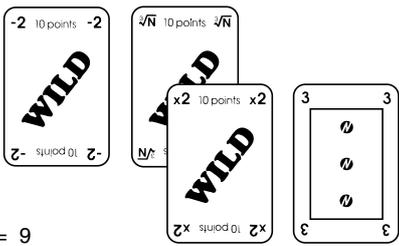
$\sqrt[3]{N}$ played onto: 8 makes 2
27 makes 3
64 makes 4
125 makes 5

In a game, these cards could be used as follows:

Centre



Hand



1. Play N^2 onto 3 = 9
2. Play x2 onto 9 = 18
3. Play 11 onto 18 = 29
4. Play -2 onto 29 = 27
5. Play $\sqrt[3]{N}$ onto 27 = 3
6. TAKE with 3 from the hand

Note: If you are playing for points, but not using the Fraction Wild Cards, so that bonus points are scored for the number of arithmetic operations used, N^2 and N^3 count as multiplication, and \sqrt{N} and $\sqrt[3]{N}$ count as division.

SOLITAIRE

*Do you ever have time on your hands when you're on your own?
Would you like to improve your NUMERO skills when there's no-one to play with?*

That's when you should play NUMERO SOLITAIRE!

You can play NUMERO SOLITAIRE at whatever level you have reached with NUMERO.

Just use whatever cards you are comfortable with (Number Cards only, or any combination of Wild Cards) and play either to see how many cards you can win or, at the more advanced level, how many points you can score. Either way, keep a record of your best score and try to beat it.

HOW TO PLAY

1. Deal five cards face up in the centre.
2. Deal five cards for your hand.
3. See what is your best possible play (winning the most cards, or scoring the most points).
4. Then, even if another TAKE is possible, don't do it. Simply restore both the centre and your hand to five from the stack.
5. Again, do your best possible TAKE.
6. Keep repeating this sequence until the pack is used up (most unlikely!) or there is no TAKE possible.
7. Count your cards won, or points scored, and try to beat it next time.

NOTE

1. As in normal NUMERO, you may use any or all cards from the centre (Number or Wild), and any Wild Cards from your hand, but only one Number Card from your hand.
2. Unlike normal NUMERO, you neither BUILD (to leave for a later turn) nor DISCARD, but do TAKES only. When you can no longer TAKE, your game is over.
3. If at any stage, you find you have 5 Wild Cards in your hand, or in the Centre, the game is over. (You can not take with a Wild Card, and neither can you TAKE Wild Cards only. There must be at least one number card in the cards you TAKE from the centre.)
4. If you are playing for points, and you have any 1s, 15s or Wild Cards left in your hand when the game is over, the points from these cards are subtracted from your score.
5. If the whole pack is dealt, even if some cards are left in the centre and/or in your hand, when the game is over, you score an additional 10 points.
6. If you actually win all the cards, so there are none left either in the centre or in your hand, at the finish of the game, you score a further 25 points.

NUMERO

Easy Check List for Bonus Points

1. WILD CARDS, 1s and 15s as printed.
2. A TAKE of 5 cards 2 points
3. A TAKE of 6 cards or more 5 points
4. A TAKE using 3 of (+, −, ×, ÷) 5 points
5. A TAKE using all 4 of (+, −, ×, ÷) 10 points
6. A TAKE (5 cards or more) including all 4 colours ... 5 points
7. A TAKE (5 cards or more) with only 1 colour 5 points
8. CLEARING THE DECK 5 points
9. Most cards held at the end of the game 10 points