Base 2 Number Prediction Cards

Joseph Eitel amagicclassroom.com

Base 2: Predict a Number from 1 to 15

1	3	5	7
9	11	13	15

2	3	6	7
10	11	14	15

4	5	6	7	
12	13	14	15	

8	9	10	11
12	13	14	15

Base 2 Predict a Number from 1 to 15

Procedure:

Cut out the four cards.

Ask a student to think of a number from 1 to 15 inclusive. You then hand the student all 4 cards. Ask the student to look at all of the cards and hand you all the cards that have their number on it. Tell them that their number may not be on all the cards. Be sure to ask them to look closely at the cards so they do not miss a number on one of the cards. After the cards with their number on them have been given back you announce their exact number!

How it's done:

Find the **smallest number** on each of the cards given to you. For these cards the smallest number is in the top left square. Add up those numbers. The total will be the number that they thought of.

8	9	10	11
12	13	14	15

4	5	6	7
12	13	14	15

2	3	6	7
10	11	14	15

1	3	5	7
9	11	13	15

Example 1:

The student picks 13 They hand you 3 cards.

The smallest number on one of the cards is 1 The smallest number on a second card is 4 The smallest number on a third card is 8.

Their number is 8 + 4 + 1 = 13

Example 2:

The student picks 9 They hand you 2 cards.

The smallest number on one of the cards is 1 The smallest number on a second card is 8

Their number is 8 + 1 = 9

Extension 1

Base 2: Predict a Number from 1 to 15

1	3	5	7	9	11	13	15
2	3	6	7	10	11	14	15
4	5	6	7	12	13	14	15
8	9	10	11	12	13	14	15

Base 2: Predict a Number from 1 to 15

Procedure: Cut out the card.

A student is asked to think of a number from 1 to 15 inclusive. Hand the student the card. Ask the student to look a the card and tell you **ALL** the colors their number is printed in. After the colors of the number has been stated you announce their exact number!

How it's done:

When the student names the colors of their number. Find the **smallest number** on each of the rows of for a mentioned color. For each color the smallest number is in the left square for that row. Add up those numbers. The total will be the number that they thought of.

Example

The student picks 13

They say their number is black, blue and green

The place value for black is 1 The place value for blue is 4 The place value for green is 8.

Their number is 8 + 4 + 1 = 13

Extension 2

Predict a Number from 1 to 15

	3	11	14	9	
13	13	15	12	3	6
7	5	1	2	10	13
14	15	4	8	11	7
11	7	14	15	6	5
	9	12	10	15	

Base 2 Predict a Number from 1 to 15

Procedure:

Hand the student the card. Ask the student to select a number from 1 to 15 inclusive. Ask the student to look a the card and tell you **ALL** the colors their number is printed in. After the colors have been stated you announce their exact number!

How it's done:

Find the **smallest number on the card for each of the colors the students states the number is.** For this card smallest numbers for each of the colors is the the center 4 squares of the card. Add up numbers of the mentioned numbers. The total will be the number that they thought of.

Example

The student picks 13. They say their number is black, blue and green

Looking at the 4 center squares we see that

The place value for black is 1 The place value for blue is 4 The place value for green is 8.

Their number is 8 + 4 + 1 = 13

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Extension 3

Predict a Number from 1 to 15

1	3	11	14	9	2
13	13	15	12	3	6
7	5	Pick a number from 1 to 15.		10	13
14	15	Name all the colors your number is		11	7
11	7	14	15	6	5
8	9	12	10	15	4

Procedure:

Hand the student the card. Ask the student to select a number from 1 to 15 inclusive. Ask the student to look a the card and tell you **ALL** the colors their number is printed in. After the colors have been stated you announce their exact number!

How it's done:

Find the smallest number on the card for each of the colors the students states the number is. For this card smallest numbers for each of the colors is the the center 4 squares. Add up numbers for those colored squares. The total will be the number that they thought of.

Example

The student picks 13. They say the number is black, blue and green The place value for black is 1 The place value for blue is 4 The place value for green is 8. Their number is 8 + 4 + 1 = 13

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Predict a Number from 1 to 31

1	3	5	7	2	3	6	7
9	11	13	15	9	11	14	15
17	19	21	23	17	19	22	23
25	27	29	31	25	27	30	31

4	5	6	7	8	9	10	11
12	13	14	15	12	13	14	15
20	21	22	23	24	25	26	27
28	29	30	31	28	29	30	31

16	17	18	19
20	21	22	23
24	25	26	27
28	29	30	31

Procedure:

Cut out the four cards.

Ask a student to think of a number from 1 to 31 inclusive. You then hand the student all 5 cards . You ask the student to look at all the cards and hand you all the cards that have their number on it. Tell them that their number may not be on all the cards. Be sure to ask them to look closely at the cards so they do not miss a number on one of the cards. After the cards with their number on them have been given back you announce their exact number!

How it's done:

Find the **smallest number** on each of the cards given to you. For these cards the smallest number is in the top left square. Add up those numbers. The total will be the number that they thought of.

Example 1:

The student picks 30 They hand you 4 cards.

The smallest number on one of the cards is 2 The smallest number on a second card is 4 The smallest number on a third card is 8. The smallest number on a fourth card is 16.

Their number is 16 + 8 + 4 + 2 = 30

Example 2:

The student picks 17. They hand you 2 cards.

The smallest number on one of the cards is 1 The smallest number on a second card is 16

Their number is 16 + 1 = 17

A presentation that makes it more personal.

Ask a student to think of the **day** of the month they were born. it will be a number form 1 to 31. Do the trick to find the day they were born. Do not revel it yet.

Ask a student to think of the number for the **month** they were born. Have then start with January as 1 and count with their fingers until they get the number of their month.

January = 1February= 2March = 3April = 4May = 5June = 6July = 7August = 8September = 9October = 10November = 11December = 12

Do the trick again to find the month they were born. You can now tell them the day and month they were born.

1	3	5	7	9	11	13	15
17	19	21	23	25	27	29	31
33	35	37	39	41	43	45	47
49	51	53	55	57	59	61	63

Base 2	Predict a	Number	from	1	to	63
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2	3	6	7	10	11	14	15
18	19	22	23	26	27	30	31
34	35	38	39	42	43	46	47
50	51	54	55	58	59	62	63

4	5	6	7	12	13	14	15
20	21	22	23	28	29	30	31
36	37	38	39	44	45	46	47
52	53	54	55	60	61	62	63

8	9	10	11	12	13	14	15
24	25	26	27	28	29	30	31
40	41	42	43	44	45	46	47
56	57	58	59	60	61	62	63

16	17	18	19	20	21	22	23
24	25	26	27	28	29	30	31
48	49	50	51	52	53	54	55
56	57	58	59	60	61	62	63

32	33	34	35	36	37	38	39
40	41	42	43	44	45	46	47
48	49	50	51	52	53	54	55
56	57	58	59	60	61	62	63

Procedure:

Cut out the 6 cards.

Ask a student to think of a number from 1 to 63 inclusive. You then hand the student all 6 cards . You ask the student to look at all the cards and hand you all the cards that have their number on it. Tell them that their number may not be on all the cards. Be sure to ask them to look closely at the cards so they do not miss a number on one of the cards. After the cards with their number on them have been given back you announce their exact number!

How it's done:

Find the **smallest number** on each of the cards given to you. For these cards the smallest number is in the top left square. Add up those numbers. The total will be the number that they thought of.

Example 1:

The student picks 37 They hand you 3 cards.

The smallest number on one of the cards is 1 The smallest number on a second card is 4 The smallest number on a third card is 32.

Their number is 32 + 4 + 1 = 37

Example 2:

The student picks 60. They hand you 4 cards.

The smallest number on one of the cards is 2 The smallest number on a second card is 8 The smallest number on a third card is 16. The smallest number on a fourth card is 32.

Their number is 32 +16 + 8 + 4 = 60

Base 3 Number Prediction Cards

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1	4	7	2	5	8
10	13	16	11	14	17
19	22	25	20	23	26

3	4	5	6	7	8
12	13	14	15	16	17
21	22	23	24	25	26

9	10	11	18	19	20
12	13	14	21	22	23
15	16	17	24	25	26

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Base 3: Predict a number from 1 to 26

Procedure: Cut out the 6 cards.

Ask a student to think of a number from 1 to 26 inclusive. You then hand the student all 6 cards . You ask the student to look at the cards and hand you all the cards that have their number on it. Tell them that their number may not be on all the cards. Be sure to ask them to look closely at the cards so they do not miss a number on one of the cards. After the cards with their number on them have been given back you announce their exact number!

How it's done:

Find the **smallest number** on each of the cards given to you. For these cards the smallest number is in the top left square. Add up those numbers. The total will be the number that they thought of.

Example 1:

The student picks 20 They hand you 2 cards.

The smallest number on one of the cards is 2 The smallest number on a second card is 10

Their number is 18 + 2 = 20

Example 2:

The student picks 13. They hand you 3 cards.

The smallest number on one of the cards is 1. The smallest number on a second card is 3. The smallest number on a third card is 9.

Their number is 9 + 3 + 1 = 13

1	2	4	5	7	8
10	11	13	14	16	17
19	20	22	23	25	26

3	4	5	6	7	8
12	13	14	15	16	17
21	22	23	24	25	26

91011121314151617181920212223242526

Base 3: Predict a number from 1 to 26

Procedure: Cut out the 3 cards.

Ask a student to think of a number from 1 to 26 inclusive. You then hand the student the 3 cards . You ask the student to look at the cards and find the cards that have their number on it. Tell them that their number may not be on all the cards. Be sure to ask them to look closely at the cards so they do not miss a number on one of the cards. Ask the student to **hand you each card that has their number on it one card at a time and to tell you if the number they selected is red or black.** After the cards with their number on them have been given back and the color of the number has been stated you announce their exact number!

How it's done:

As they hand you a card find the **smallest number on the card that has the color the student stated their number was**. For these cards the smallest number is in the top left square. Add up those numbers. The total will be the number that they thought of.

Example 1

The student picks 17 They hand you 3 cards

They hand you a card and their number is black. The smallest black number on that cards is 2. They hand you a card and their number is black. The smallest black number on that cards is 6. They hand you a card and their number is red. The smallest red number on that cards is 9.

Their number is 9 + 6 + 2 = 17

Example 2

The student picks 7 They hand you 2 cards

They hand you a card and their number is red. The smallest red number on that cards is 1. They hand you a card and their number is black. The smallest black number on that cards is 6.

Their number is 6 + 1 = 7

Base 3: Predict a Number from 1 to 80

1	2	4	5	7	8		3	4	5	6	7	8
10	11	13	14	16	17		12	13	14	15	16	17
19	20	22	23	25	26		21	22	23	24	25	26
28	29	31	32	34	35		30	31	32	33	34	35
37	38	40	41	43	44		39	40	41	42	43	44
46	47	49	50	52	53		48	49	50	51	52	53
55	56	58	59	61	62		57	58	59	60	61	62
64	65	67	68	70	71		66	67	68	69	70	71
73	74	76	77	79	80		75	76	77	78	79	80
0	10	44	10	12	14]	27	20	20	20	21	20
			12	15	14		21	20	23	50	51	52
15	16	17	18	19	20		33	34	35	36	37	38
21	22	23	24	25	26		39	40	41	42	43	44
36	37	38	39	40	41		45	46	47	48	49	50
42	43	44	45	46	47		51	52	53	54	55	56
48	49	50	51	52	53		57	58	59	60	61	62
63	64	65	66	67	68		63	64	65	66	67	68
69	70	71	72	73	74		69	70	71	72	73	74
75	76	77	78	79	80		75	76	77	78	79	80

Base 3: Predict a Number from 1 to 80

Procedure: Cut out the 4 cards.

Ask a student to think of a number from 1 to 80 inclusive. You then hand the student the 4 cards . You ask the student to look at the cards and find the cards that have their number on it. Tell them that their number may not be on all the cards. Be sure to ask them to look closely at the cards so they do not miss a number on one of the cards. Ask the student to **hand you each card that has their number on it one card at a time and to tell you if the number they selected is red or black.** After the cards with their number on them have been given back and the color of the number has been stated you announce their exact number!

How it's done:

As they hand you a card find the **smallest number on the card that has the color the student stated their number was**. For these cards the smallest number is the first occurrence of the color on the card. Add up those numbers. The total will be the number that they thought of.

Example 1

The student picks 50 They hand you 4 cards

They hand you a card and their number is black. The smallest black number on that cards is 2. They hand you a card and their number is red. The smallest red number on that cards is 3 They hand you a card and their number is black. The smallest black number on that cards is 18. They hand you a card and their number is red. The smallest red number on that cards is 27.

Their number is 27 + 18 + 3 + 2 = 50

Example 2

The student picks 42 They hand you 3 cards

They hand you a card and their number is black. The smallest black number on that cards is 6. They hand you a card and their number is red. The smallest red number on that cards is 9. They hand you a card and their number is red. The smallest red number on that cards is 27.

Their number is 27 + 9 + 6 = 42

Base 4 Number Prediction Cards

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Base 4: Predict a Number from 1 to 63

1	2	3	5	6	7	4	5	6	7	8	9
9	10	11	13	14	15	10	11	12	13	14	15
17	18	19	21	22	23	20	21	22	23	24	25
25	26	27	29	30	31	26	27	28	29	30	31
33	34	35	37	38	39	36	37	38	39	40	41
41	42	43	45	46	47	42	43	44	45	46	47
49	50	51	53	54	55	52	53	54	55	56	57
57	58	59	61	62	63	58	59	60	61	62	63

16	17	18	19	20	21
22	23	24	25	26	27
28	29	30	31	32	33
34	35	36	37	38	39
40	41	42	43	44	45
46	47	48	49	50	51
52	53	54	55	56	57

Base 4: Predict a number from 1 to 63

Procedure: Cut out the 3 cards.

Ask a student to think of a number from 1 to 63 inclusive. You then hand the student the 3 cards . You ask the student to look at the cards and find the cards that have their number on it. Tell them that their number may not be on all the cards. Be sure to ask them to look closely at the cards so they do not miss a number on one of the cards. Ask the student to **hand you each card that has their number on it one card at a time and to tell you if the number they selected is red or black.** After the cards with their number on them have been given back and the color of the number has been stated you announce their exact number!

How it's done:

As they hand you a card find the **smallest number on the card that has the color the student stated their number was**. For these cards the smallest number is the first occurrence of the color on the card. Add up those numbers. The total will be the number that they thought of.

Example 1:

The student picks 39 They hand you 3 cards

They hand you a card and their number is green. The smallest black number on that cards is 3. They hand you a card and their number is red. The smallest red number on that cards is 4 They hand you a card and their number is black. The smallest black number on that cards is 32.

Their number is 32 + 4 + 3 = 39

Base Fibonacci Number Prediction Cards

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Base Fibonacci: Predict a Number from 1 to 88

1	4	6	9	12	14	2	7	10	15	20	23
17	19	22	25	27	30	28	31	36	41	44	49
33	35	38	40	43	46	54	57	62	65	70	75
48	51	53	56	59	61	78	83	86			
64	67	69	72	74	77						
80	82	85	88								
3	4	11	12	16	17	5	6	7	18	19	20
24	25	32	33	37	38	26	27	28	39	40	41
45	46	50	51	58	59	52	53	54	60	61	62
66	67	71	72	79	80	73	74	75	81	82	83
87	88										
8	9	10	11	12	29	13	14	15	16	17	18
30	31	32	33	42	43	19	20	47	48	49	50
44	45	46	63	64	65	51	52	53	54	68	69
66	67	84	85	86	87	70	71	72	73	74	75
88											

21	22	23	24	25	26		34	35	36	37	38	39
27	28	29	30	31	32		40	41	42	43	44	45
33	76	77	78	79	80		46	47	48	49	50	51
81	82	83	84	85	86		52	53	54			
87	88											
55	56	57	58	59	60	」 						
55 61	56 62	57 63	58 64	59 65	60 66							
55 61 67	56 62 68	57 63 69	58 64 70	59 65 71	60 66 72							
55 61 67 73	56 62 68 74	57 63 69 75	58 64 70 76	59 65 71 77	60 66 72 78							
55 61 67 73 79	56 62 68 74 80	57 63 69 75 81	58 64 70 76 82	59 65 71 77 83	60 66 72 78 84							

Base Fibonacci Predict a Number from 1 to 88

Procedure: Cut out the 9 cards.

Ask a student to think of a number from 1 to 88 inclusive. You then hand the student the 9 cards. You ask the student to look at the cards and hand you all the cards that have their number on it. Tell them that their number may not be on all the cards. Be sure to ask them to look closely at the cards so they do not miss a number on one of the cards. After the cards with their number on them have been given back you announce their exact number!

How it's done:

Find the **smallest number** on each of the cards given to you. For these cards the smallest number is in the top left square. Add up those numbers. The total will be the number that they thought of.

Example 1:

The student picks 37 They hand you 2 cards.

The smallest number on one of the cards is 3 The smallest number on a second card is 34

Their number is 34 + 3 = 37

Other Number Prediction Cards

Predict a Number from 1 to 100 using an add and subtract method

1	2	4	5	7	8	10	11	13	14
16	17	19	20	22	23	25	26	28	29
31	32	34	35	37	38	40	41	43	44
46	47	49	50	52	53	55	56	58	59
61	62	64	65	67	68	70	71	73	74
76	77	79	80	82	83	85	86	88	89
91	92	94	95	97	98	100			C1

Card 1

Card 3

2	3	4	5	6	7	11	12	13	14
15	16	20	21	22	23	24	25	29	30
31	32	33	34	38	39	40	41	42	43
47	48	49	50	51	52	56	57	58	59
60	61	65	66	67	68	69	70	74	75
76	77	78	79	83	84	85	86	87	88
92	93	94	95	96	97				C3

Card 9

5	6	7	8	9	10	11	12	13	14
15	16	17	18	19	20	21	22	32	33
34	35	36	37	38	39	40	41	42	43
44	45	46	47	48	49	59	60	61	62
63	64	65	66	67	68	69	70	71	72
73	74	75	76	86	87	88	89	90	91
92	93	94	95	96	97	98	99	100	C9

Card 27

14	15	16	17	18	19	20	21	22	23
24	25	26	27	28	29	30	31	32	33
34	35	36	37	38	39	40	41	42	43
44	45	46	47	48	49	50	51	52	53
54	55	56	57	58	59	60	61	62	63
64	65	66	67	95	96	97	98	99	100
									C27

Card 81

41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
									C81

Predict a Number from 1 to 100 using an add and subtract method

Procedure:

Note: These cards use addition and subtraction of key numbers to find the selected number.

Cut out the 5 cards. Cut the cards so the title card 1, card 3 ect. is not on the cut out card

Ask a student to think of a number from 1 to 100 inclusive. You then hand the student the 5 cards . You ask the student to look at the cards and find the cards that have their number on it. Tell them that their number may not be on all the cards. Be sure to ask them to look closely at the cards so they do not miss a number on one of the cards. Ask the student to **hand you each card that has their number on it one card at a time and to tell you if the number they selected is red or black.** After the cards with their number on them have been given back and the color of the number has been stated you announce their exact number!

How it's done:

As they hand you a card that has their number on it keep the cards divided into 2 groups one group of cards has their number in red and the other group has their number in black. Add the key number for each of the crds whose number was black and add the key card numbers of the cards whose number was in red. Their number will be the black total minus the red total. For these cards that key number is in the lower right corner as C1 ,C3 , C9 , C27 or C81.

Example 1

The student picks 50

They hand you 1 cards with their number in black. The the key numbers for this card is 81

They hand you 3 cards with their number in red. The sum of the key numbers for these cards are 1 + 3 + 27 = 31

Their number is the black key number minus the sum of the red key number 81 - 31 = 50

Their number is 50

Predict a Number from 1 to 100 with a different base

1	3	5	7	9	11	13	16	18	20
22	24	26	29	31	33	35	37	39	41
44	46	48	50	52	54	57	59	61	63
65	67	69	72	74	76	78	80	82	85
87	89	91	93	95	97	100			

2	3	6	7	10	11	14	17	18	21
22	25	26	30	31	34	35	38	39	42
45	46	49	50	53	54	58	59	62	63
66	67	70	73	74	77	78	81	82	86
87	90	91	94	95	98				

4	5	6	7	12	13	14	19	20	21
22	27	32	33	34	35	40	41	42	47
48	49	50	55	60	61	62	63	68	69
70	75	76	77	78	83	88	89	90	91
96	97	98							

8	9	10	11	12	13	14	23	24	25
26	27	36	37	38	39	40	41	42	51
52	53	54	55	64	65	66	67	68	69
70	79	80	81	82	83	92	93	94	95
96	97	98							

15	16	17	18	19	20	21	22	23	24
25	26	27	43	44	45	46	47	48	49
50	51	52	53	54	55	71	72	73	74
75	76	77	78	79	80	81	82	83	99
100									

28	29	30	31	32	33	34	35	36	37
38	39	40	41	42	43	44	45	46	47
48	49	50	51	52	53	54	55	84	85
86	87	88	89	90	91	92	93	94	95
96	97	98	99	100					

56	57	58	59	60	61	62	63	64	65
66	67	68	69	70	71	72	73	74	75
76	77	78	79	80	81	82	83	84	85
86	87	88	89	90	91	92	93	94	95
96	97	98	99	100					

Procedure:

Cut out the 7 cards.

Ask a student to think of a number from 1 to 100 inclusive. You then hand the student all 7 cards . You ask the student to look at all the cards and hand you all the cards that have their number on it. Tell them that their number may not be on all the cards. Be sure to ask them to look closely at the cards so they do not miss a number on one of the cards. After the cards with their number on them have been given back you announce their exact number!

How it's done:

Find the **smallest number** on each of the cards given to you. For these cards the smallest number is in the top left square. Add up those numbers. The total will be the number that they thought of.

Example 1:

The student picks 30. The student hands you 2 cards

The smallest number on one card is 2 The smallest number on the other card is 28

Their number is 28 + 2 = 30

Example 2:

The student picks 68. The student hands you 2 cards

The smallest number on one card is 4 The smallest number on the second card is 8 The smallest number on the third card is 56

Their number is 56 + 8 + 4 = 68