

Kinder Math & Science

STEM Study - Science, Technology, Engineering
& Mathematics

(Grades PK/JK & SK)

LEARNING LOG

BINOCULARS



<http://www.artistshelpingchildren.org/crafts-images/toys/binoculars.png>

NAME: _____

Kinder Math & Engineering Science Learning Log

Copyright: Barbara J. Smith

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3600 Yonge St.
Toronto, Ontario, Canada M4N3R8

Author: Barbara J. Smith

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zpschoolandcurriculumdesign@gmail.com

This document edition will be used as a pilot resource to support innovative schools. The intent of sharing this first version with students, staff and families, is so we can gather further input for future revisions of this living curriculum.

All we ask is that if you use these materials that you give credit to the author(s) of this initial work, in your introduction.

PURPOSE of LEARNING LOG RESOURCE:

1. To support the Ontario Science and Mathematics Curriculum
2. To support independent and paired study during station work or during home study (holiday or at-home interest/extended homework activities)
3. To add support as an enrichment or remedial resource (students can work at their own pace)
4. To provide a learning log (evidence of learning) built in to student resources

The Math & R & D Challenge!

Trailblazer (Expert)

All tasks and projects completed

Pathfinder (Apprentice)

Most of tasks and projects completed

Rookie (Novice)

Still working on tasks and projects

Challenge	Check When Complete
JK Math Tasks	
SK Math Tasks	
Extension Tasks	
Toys and Treasures Project (Semester 1) *year 1	
Playground Engineer Project (Semester 2) *year 1	
Wonder Workshop Project (Semester 1) *year 2	
Making Things Go Project (Semester 2) *year 2	
Learning Log	
Classroom Work	



https://ed.stanford.edu/sites/default/files/news_images/kenjimoooc-fixcolor.jpeg

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Whole Numbers



n-SIDeFV6jOeILz3JdUeAcuGQo3vTIVm9fvraHwfvRnWk5Qp9eq41pQlml8RTRWgZljl=w300 copy

I can or I will... (Diagnostic)	Teacher Check In (check or Not Yet - NY)
Count to 21 forward	
Count backwards from 21	
Record 1 through 21	
Record numbers 22-99	
Add and subtract within 5	
Add and subtract within 10	
Sort Objects & identify & A/ B pattern	
Identify & construct A/ B/ C	

1. Count to 21 forward 😊
2. Count backwards from 21 😊
3. Record numbers 1 to 21 in the chart below:

4. On a separate sheet of paper, record numbers 21 to 99
5. Fill in the following numbers that are missing.

Name _____

Fill in the missing numbers.



1		3	4
5		7	
9	10		12
	14		16
17			20

<https://s-media-cache-ak0.pinimg.com/736x/cb/4d/08/cb4d089c46b480a81fa1abeadd52b723.jpg>

6. Add and subtract the following numbers:

$2 + 2 = \underline{\quad}$

$5 - 1 = \underline{\quad}$

$3 + 1 = \underline{\quad}$

$3 - 2 = \underline{\quad}$

$1 + 4 = \underline{\quad}$

$4 - 3 = \underline{\quad}$

7. Sort objects & identify A/ B pattern using beads.
Draw the pattern below:

8. Identify & construct an A/ B/ C pattern in space below:

--	--	--	--	--	--	--	--

*Kinders who have already mastered these items can move on to next diagnosis or do Extend IT activities.

1. Order & Compare Numbers Between 1 & 10

SETTING THE TABLE

- TAKE TURNS SETTING 2 OR 3 PLACES FOR THE KINDER PICNIC TABLE FOR SNACK.
- SAY OUT LOUD:

"1 PLACEMAT FOR _____ AND 1 PLACEMAT FOR _____"

- THEN SAY

"1 SPOON FOR _____" AND 1 SPOON FOR _____"

THEN SAY "1 CUP" FOR _____ AND "1 CUP FOR

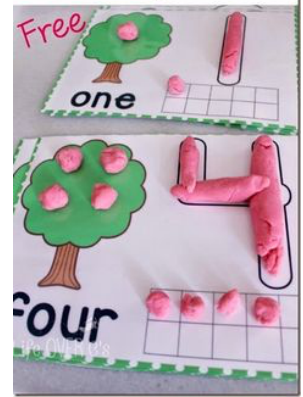
_____"



<https://encrypted-tbn3.gstatic.com/images?q=tbn:ANd9GcTZ2Bky-oJRB6MhQpLSOZoYh2SvnUKZQgsNEA5iOcz8oP2DyCt8>

- MAKE PLAYDOUGH MATS LIKE THIS ONE FOR NUMBERS ONE TO TEN:

Playdough Mats



NUMBER PRACTICE:

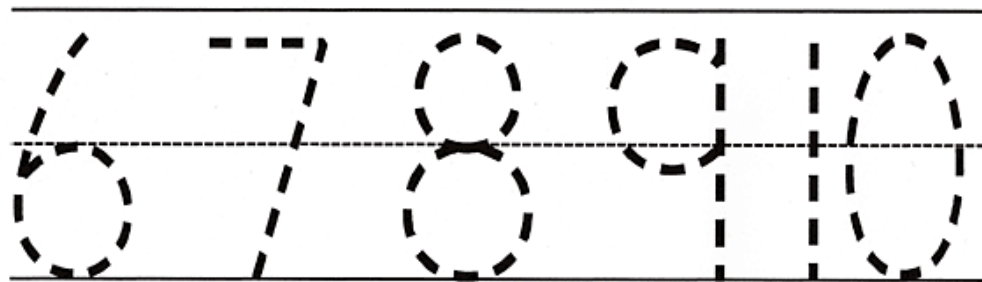
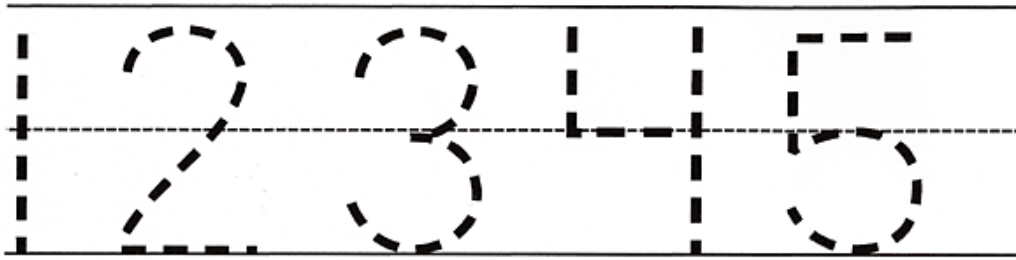
- IN YOUR PRINTING BOOK CHOOSE A NUMBER TO PRACTICE.
- THEN SHOW YOUR TEACHER HOW YOU CAN PRINT THAT NUMBER WITHOUT LOOKING.

I CAN PRINT:

--	--	--	--	--	--	--	--	--	--

_____ LIKE A TRAILBLAZER (IN SPACE ABOVE
 _____ PATHFINDER (IN A LARGER SPACE) OR
 _____ NOT YET (NEED MORE PRACTICE)

- TRACE THE NUMBERS.



<http://coloringpoint.com/wp-content/uploads/2014/03/2014-printable-numbers-tracing-pre-k-worksheets-for-kids.gif>

STEP OUTSIDE:

- DRAW THESE NUMBERS IN THE DIRT USING A STICK!



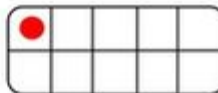
<http://stmedia.stimg.co/kinder+gal2+102416+11.JPG?w=525&h=400>

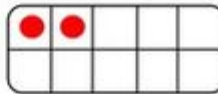
- FIND 10 ITEMS AND SORT THEM INTO 2 TABLES MADE FROM STICKS.
- TELL YOUR CLASSMATES WHY YOU PUT THINGS IN EACH COLUMN OF THE TABLE.
- DRAW YOUR TABLE AND PICTURES OF WHAT YOU FOUND BELOW.

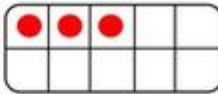
HIGH FIVE - HIGH TEN GAME

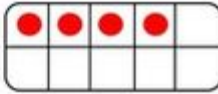
A FARM ANIMAL IS CALLED OUT AND PARTNERS DECIDE IF THEY THINK THE FARM NEEDS 5 OR 10 OF THEM BY DOING EITHER A "HIGH 5" OR A "HIGH TEN" (IE. CHICKENS, DOGS, COWS, HORSES, PIGS...).


- HOW CAN THE TEN FRAME HELP YOU COUNT?
- WHY DO YOU THINK THIS IS CALLED A "TEN FRAME"?

1 one 








2 two 

3 three 

4 four 

5 five 

<https://s-media-cache-ak0.pinimg.com/236x/df/d2/81/dfd28151fdbf3750028aed146f9289.jpg>



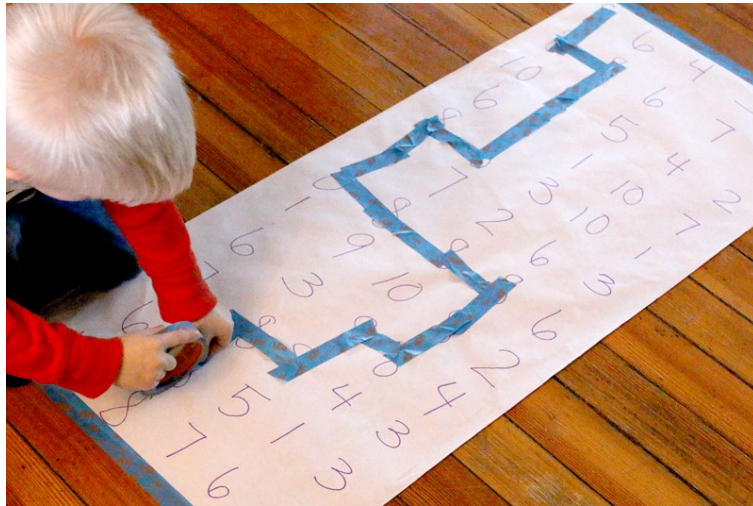
Fast Five

5, 6, 7

<http://www.mathcoachscorner.com/wp-content/uploads/2014/10/Fast-Five-1.png>

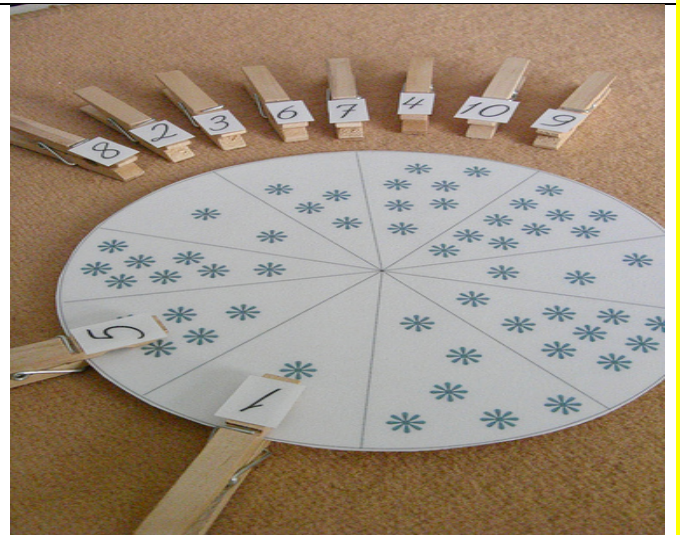
MAZE MATH

- PARTNERS CAN CREATE A MATH MAZE FOR NUMBERS 6,7,8, or 9.
- SWITCH THEM WITH ANOTHER PAIR AND COMPLETE THE MAZE WITH COLOURED TAPE.



<http://handsonaswegrow.com/follow-the-number-maze/>

- COUNT & MATCH THE NUMBERS USING THE PEGS AND SPINNER.



EXTEND IT:

- MAKE YOUR SPINNER FOR NUMBERS 11-21.
- ON A WHITEBOARD TABLE, MAKE THE NUMBERS USING DOMINOES.



- USING DICE - MAKE MR. POTATOE HEAD.

ROLL MR. POTATOE HEAD

2	your choice	8	 1 part of teeth
3	 2 ears	9	 1 eye
4	 1 pair of eyes	10	 1 arm
5	 1 pair of glasses	11	 1 pair of shoes
6	 1 nose	12	roll again
7	 1 mustache		

EGG MATH:

- MAKE YOUR OWN NUMBER EGGS USING DIFFERENT COLOURS.
- MIX THEM UP AND MATCH THEM.



- MAKE A BINGO GAME WITH NUMBERS.

BINGO			BINGO		
1	4	6	7	2	10
3	8	9	9	8	3
10	2	7	5	6	4
BINGO			BINGO		
6	7	2	4	7	6
1	10	9	5	9	2
8	5	3	1	8	10

<https://s-media-cache-ak0.pinimg.com/236x/25/35/a4/2535a45e0fdf3700744590003dfe3c3f.jpg>

SING ALONG TO KINDER NUMBER SONGS.

- https://www.youtube.com/watch?v=e0dJWfQHF8Y&list=RDq_zUEV5uK8Q&index=5 (counting to 100).

TOWER OF FUN!

IMAGINE A TOWER OF FUN. MAKE YOUR OWN ELEVATOR BUTTON BOOK. DRAW FUN THINGS TO DO ON EACH FLOOR AND MAKE YOUR OWN ELEVATOR BOOK.



●	1	1	1	1	1
●●	2	2	2	2	2
●●●	3	3	3	3	3
●●●●	4	4	4	4	4
●●●●●	5	5	5	5	5
●●●●●●	6	6	6	6	6
●●●●●●●	7	7	7	7	7
●●●●●●●●	8	8	8	8	8
●●●●●●●●●	9	9	9	9	9
●●●●●●●●●●	10	10	10	10	10

2. Order & Compare Numbers Between 0-21

- PRACTICE PRINTING 21!

21
twenty one



21	21	21	21	21	21	21
21	21	21	21			
21	21	21				
21	21					
21						

<http://www.math-only-math.com/images/worksheet-on-number-21.jpg>

- PRACTICE PRINTING 11, 12 ,13, 14, 15, 16, 17, 18, 19 AND 20 INSIDE YOUR PRINTING BOOK. ☺

- FILL IN THE NUMBERS BELOW:

Name _____

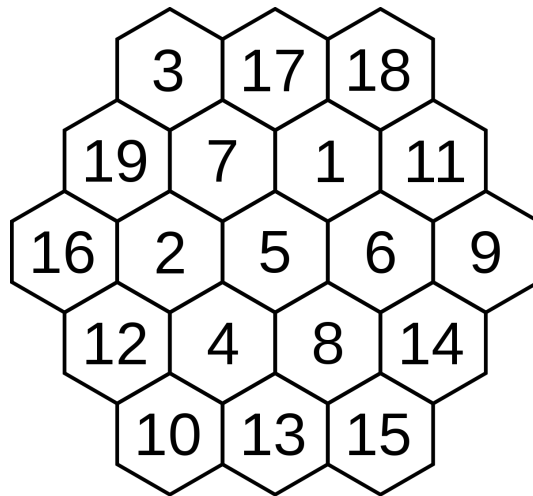
Fill in the missing numbers.



1		3	4
5		7	
9	10		12
	14		16
17			20

<https://s-media-cache-ak0.pinimg.com/736x/cb/4d/08/cb4d089c46b480a81fa1abeadd52b723.jpg>

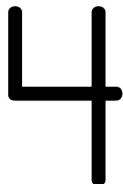
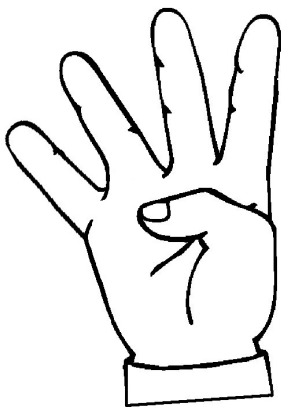
- PUT THESE NUMBERS IN THE BEEHIVE IN ORDER.



<https://upload.wikimedia.org/wikipedia/commons/thumb/1/1b/MagicHexagon-Order3-a.svg/1200px-MagicHexagon-Order3-a.svg.png>

- LOOK AT THE NUMBERS 4 AND 14, IN THE BEEHIVE.
- SHOW 2 WAYS TO PRINT THE NUMBER 4.

- TALK TO YOUR TEACHER ABOUT WHERE YOU SEE THE NUMBER "4" PRINTED THIS WAY.



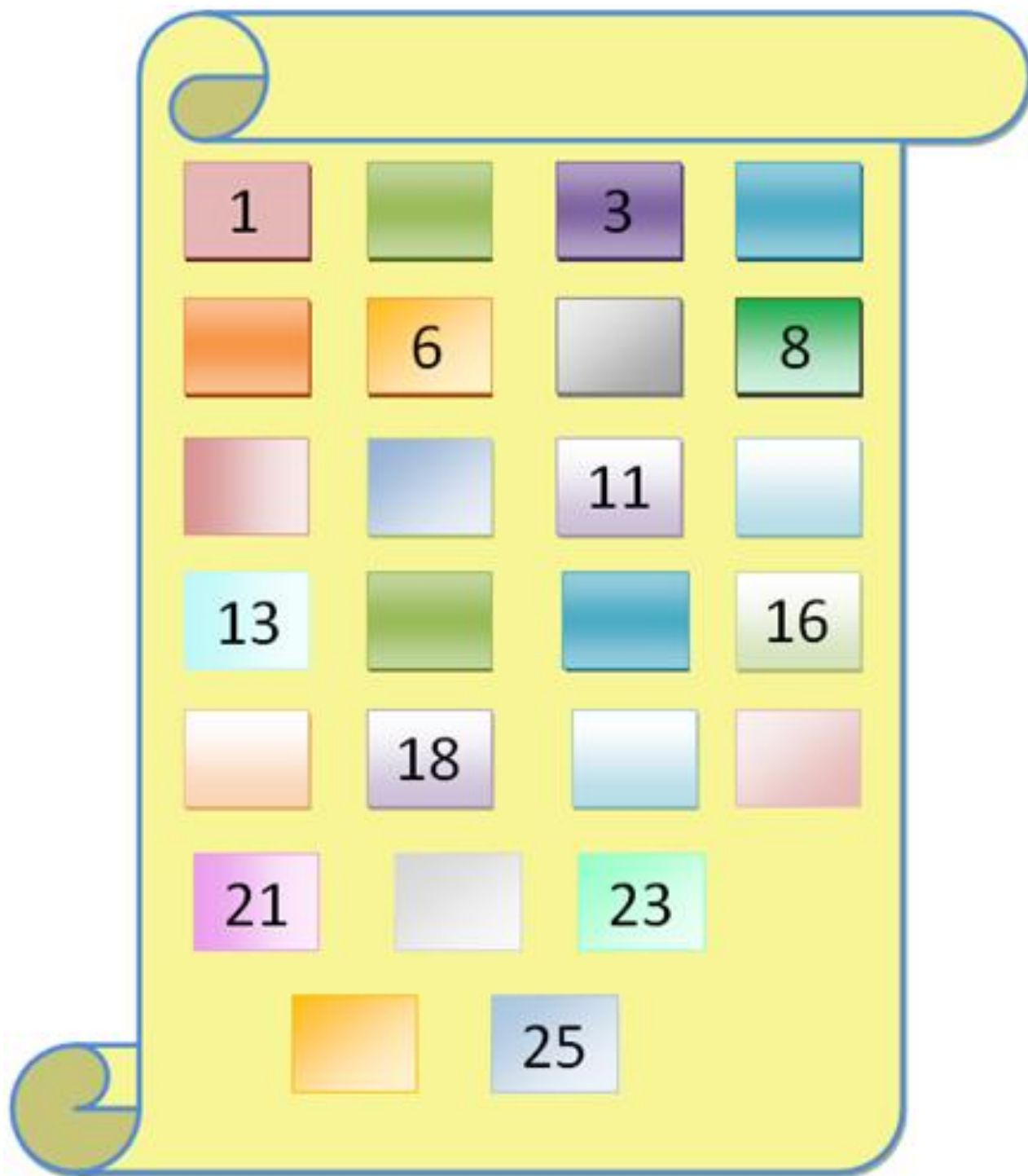
<http://www.okclipart.com/img12/irxpzptjyhtvuqhnkgk.jpg>



<http://www.okclipart.com/img12/irxpzptjyhtvuqhnkgk.jpg>

- NOW FILL IN THE MISSING NUMBERS UP TO 21.

Extend it by going to 25.



STEP OUTSIDE (IN THE WINTER):

- NUMBER 21 DIFFERENT MARGARINE TUBS - 1,2,3....
- FILL EACH MARGARINE TUB WITH WATER - AND LEAVE OUTSIDE TO FREEZE (ALL TOPS ON OR OFF).
- THEN CREATE A CURLING RINK OUTSIDE IN A FLAT STRIP OF SPACE.
- CURL THE 'ICE ROCKS' TO SEE WHICH ONES SCORE THE MOST POINTS.



https://lh5.googleusercontent.com/-wodiitMxPkY/UsXQ_cieBAI/AAAAAAAAAB_I/XiMoKA2m_FY/s640/blogger-image--1697707972.jpg

- COMPLETE THE FIRST 4 ROWS.
- EXTEND IT: BY COMPLETING ROWS 5 & 6.

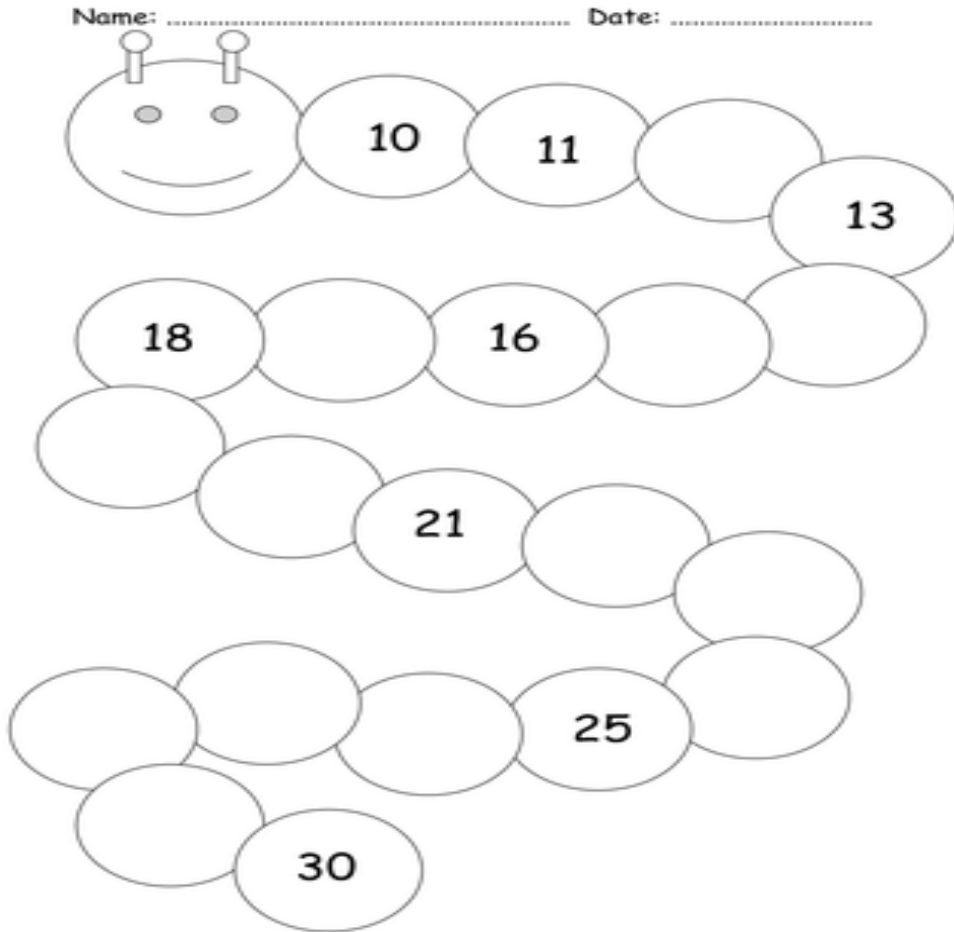
Write each missing number.

www.worksheetfun.com

1				5
6				10
11				15
16				20
21				25
26				30

<http://www.worksheetfun.com/wp-content/uploads/2013/03/cloud-rain-missing-numbers-1-30-2.png>

- HOW FAR DOWN THE BUG CAN YOU GO?

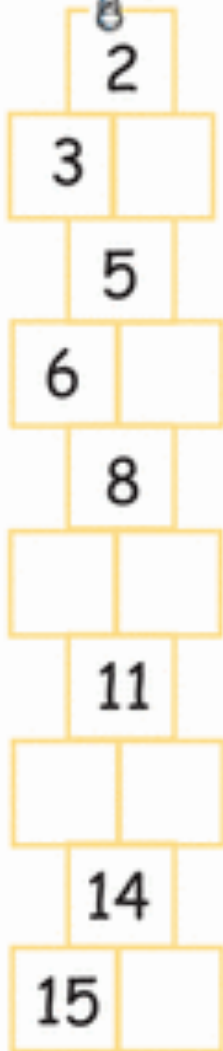


<https://d1uvxqwmcz8f11.cloudfront.net/tes/resources/6431124/fdc1ca7b-c5c5-413f-8524-fca0753f216d/image?width=500&height=500&version=1406552817000>

GOING ON A NUMBER HUNT

- TAKE PICTURES OF NUMBERS INSIDE AND OUTSIDE THE SCHOOL TO MAKE A NUMBERS GALLERY BULLETIN BOARD.
- MAKE MAGNETIC AND SANDPAPER NUMBER SIGNS TO USE ON A CLASS CALENDAR DURING MORNING MEETING.

EXTEND IT:



Hopscotch

Finish the hopscotch game by filling in the missing numbers between 1 and 50.



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More worksheets at www.education.com/worksheets

<https://s-media-cache-ak0.pinimg.com/originals/99/2d/47/992d4709861eef12040572cc495fa6c2.gif>

- Order numbers & use place value between 0-100.

3. TOYS & TREASURES PROJECT (PART A)

<http://belladia.typepad.com/.a/6a00d8341cc08553ef017eea59d14a970d-800wi>



THEORY:

I THINK I CAN DESIGN A TOY THAT WILL HELP MY CLASSMATES LEARN ABOUT NUMBERS.

MATERIALS: (DRAW 6 RECYCLED THINGS YOU PLAN TO USE FOR YOUR TOY IN THE BOXES BELOW.)

TASK (Method):

1. GATHER 21 RECYLCED THINGS YOU MIGHT USE TO MAKE A TOY.
2. DRAW SOME IMAGES OF TOYS ON POSTER PAPER THAT YOU MIGHT LIKE TO MAKE.
3. ASK YOUR TEACHER TO LABLE IMAGES.
4. BEGIN BUILDING YOUR TOY USING THE RECYCLED MATERIALS, TAPE & MAGNETS.

OBSERVATIONS:

- DRAW A PICTURE OF YOUR TOY AFTER YOUR FIRST DAY OF DESIGNING.
- YOU CAN LABEL IT OR ASK YOUR TEACHER TO LABEL IT FOR YOU.

DAY 1

- WORK ON MAKING YOUR TOY FOR A FEW MORE DAYS.
- DRAW A PICTURE OF YOUR TOY AT THE END OF THE FIRST WEEK.
- YOU CAN LABEL IT OR ASK YOUR TEACHER TO LABEL IT FOR YOU.

TOY AT END OF FIRST WEEK

TOY SPECS: MEASURE YOUR TOY BY USING A PEBBLE OF YOUR CHOICE. CALL IT: _____'S PEBBLE.

- DRAW AND LABEL THE PARTS OF YOUR TOY AND USE THE NUMBER OF PEBBLES TO LABEL THE LENGTH (HOW LONG) AND THE WIDTH (HOW WIDE) OF YOUR TOY.
- YOU WILL ALSO NEED TO WEIGH YOUR TOY.

PARTS OF MY TOY (WITH PEBBLE MEASUREMENTS)

- MEASURE YOUR TOY WITH A PAPER CLIP.

MY TOY WAS:

_____ PAPER CLIPS LONG AND
_____ PAPER CLIPS WIDE.

MY TOY WAS....

- LARGER,
- SMALLER, OR
- CLOSE TO THE SAME SIZE
AS THE OTHER TOYS IN OUR CLASS.

MY PAPER CLIP WAS:

- LARGER THAN MY PEBBLE
- SMALLER THAN MY PEBBLE
- CLOSE TO THE SAME SIZE AS MY PEBBLE



https://www.eduplace.com/math/mw/background/1/10/graphics/ts_1_10_wi-2.gif

- WHY DO YOU THINK COMPANIES NEED TO WEIGH THEIR TOYS?

I WEIGHED MY TOY ON THE WEIGH SCALES AND IT

WEIGHED: _____ GRAMS.

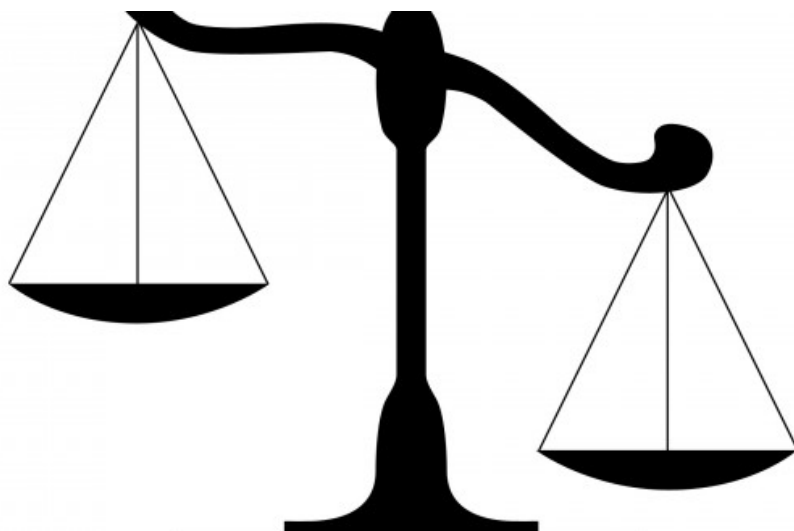
MY TOY WAS

HEAVIER,

LIGHTER OR

AROUND THE SAME WEIGHT
AS THE OTHER TOYS IN OUR CLASS.

- TELL YOUR CLASSMATES ABOUT THE WEIGHT OF YOUR TOY.
- THE MATERIALS MAY BE THINNER, THICKER, HEAVIER OR LIGHTER....



<http://islamiquemagazine.com/wp-content/uploads/scales-700x325.jpg>

FINDINGS: I DISCOVERED THAT...

_____ I USED ALL THE RECYLCED THINGS I LISTED IN THE BEGINNING.

_____ I DID NOT USE ALL THE RECYLCED THINGS I LISTED IN THE BEGINNING.

I DID NOT USE: _____

I THINK I NEEDED A LONGER _____ OR A

SHORTER _____ TO MAKE A BETTER TOY.

MY TOY WORKED LIKE I WANTED IT TO.

YES, NO, ALMOST 😊 (CIRCLE ONE.)

I WISH MY TOY COULD _____.

I NEEDED MORE TIME TO _____

_____.

NEXT TIME I WOULD LIKE TO MAKE A _____.
(TEACHER CAN HELP FILL IN BLANKS)

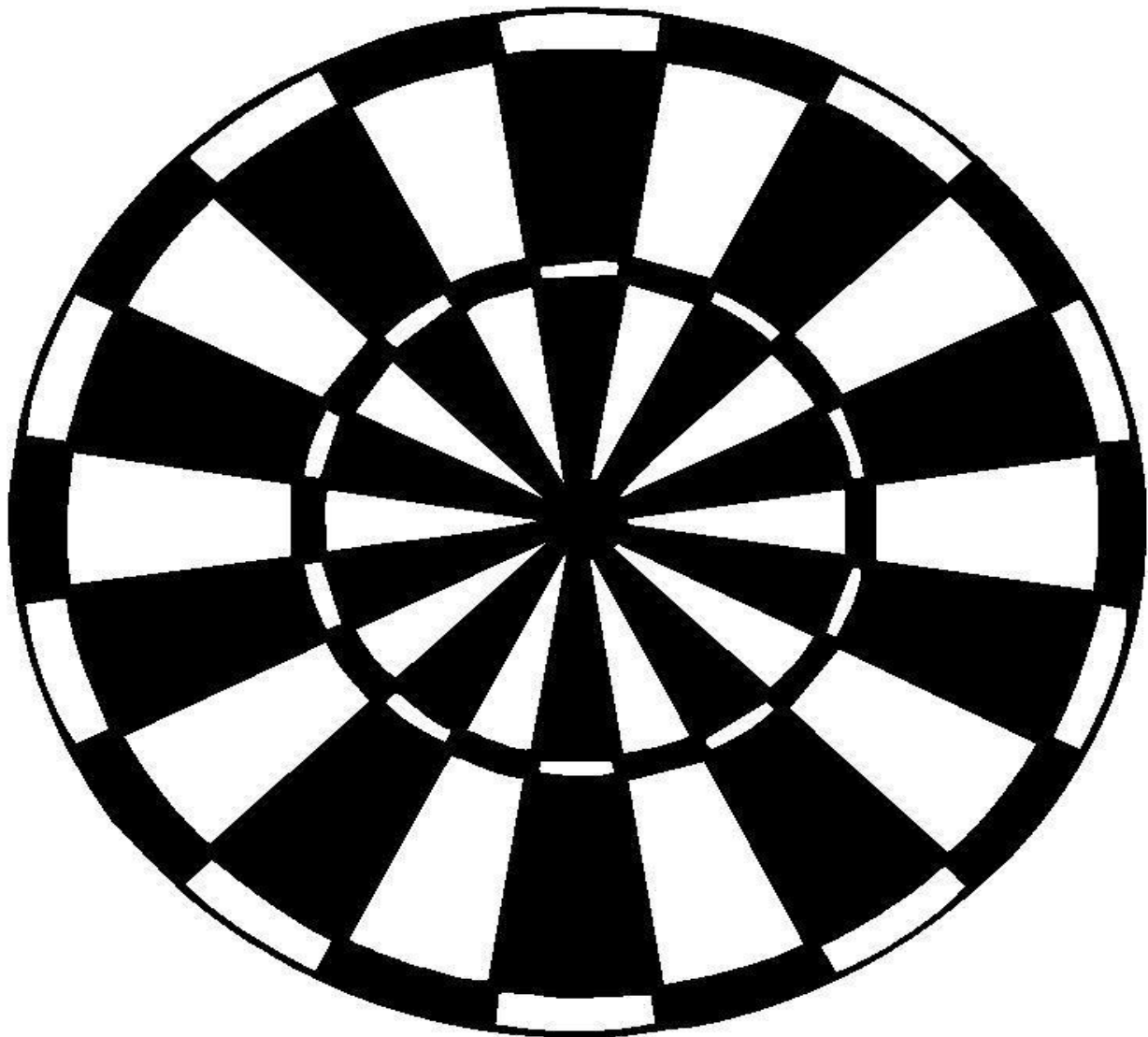
4. Count Backwards From 21

- LOOK AT THE DARTBOARD AND READ THE NUMBERS TO YOUR TEACHER.



http://www.vectorportal.com/img_novi/dartboard-vectorportal_10972.jpg

YOUR TEACHER WILL RECORD THE NUMBERS YOU MAY NEED TO PRACTICE HERE:



https://img.clipartfest.com/e3b602d34c18524328fb3c83052117eb_dart-board-clipart-dart-board-dart-board-clipart_731-732.jpeg

- THEN MAKE YOUR OWN DARTBOARD BY LOCATING THE NUMBERS IN DIFFERENT PLACES.
- BE SURE TO USE ALL THE NUMBERS BETWEEN 0 & 20.

STEP OUTSIDE: 21 PACES

- PLACE CROQUETTE HOOPS 21 PACES APART.
- PLAY THE GAME BY COUNTING HITS.



<http://www.animatedimages.org/data/media/1841/animated-croquet-image-0008.gif>

BALANCE COUNTDOWN:

- CAN YOU BALANCE ON 1 FOOT FOR 21 SECONDS?

Yes, No, Almost 😊

- CAN YOU BALANCE ON 1 FOOT WHILE COUNTING BACKWARDS FROM 21 TO 1?

Yes, No, Almost 😊

FASTER or SLOWER?

- IS IT EASIER TO COUNT FORWARDS OR BACKWARDS?
- WHY WOULD YOU WANT TO COUNT FORWARD INSTEAD OF BACKWARDS WHEN YOU ARE BALANCING ON 1 FOOT?

I can count backwards...

like a trailblazer, pathfinder or still need to practice (NY).

5. Record Numbers 1 Through 99

STEP OUTSIDE:

- FIND 99 PEBBLES WITH A PARTNER.
- DECIDE HOW YOU WILL SHARE WITH THE CLASS THAT YOU HAVE 99 PEBBLES.
- SHOW HOW YOU ORGANIZED YOUR STONES HERE.

ROCK CIRCLES

- NOW TAKE AWAY A SECRET NUMBER OF PEBBLES.
- ARRANGE YOUR PEBBLES IN A ROCK CIRCLE:



<http://www.egitimpedia.com/wp-content/uploads/2014/03/orman-okulu.jpg>

- COUNT THE NUMBER OF ROCKS OUT LOUD.
- TALK ABOUT WHICH ONES YOU MIGHT PAINT TO HELP COUNT THEM FASTER.
- AFTER PAINTING, TRY AND SEE HOW FAST YOU CAN COUNT OTHER ROCK CIRCLES.
- WHICH CIRCLE WAS THE EASIEST TO COUNT AND WHY?

ROCK BAGS

- TAKE RECYLCED (CLEAN) NYLONS AND MAKE 10 BAGS OF 10 ROCKS (A ROCK BAG)
- COUNT OUT LOUD EACH NUMBER BEFORE TYING UP THE SET OF ROCKS TOGETHER IN THE NYLON.
- HOW DO THE ROCK BAGS HELP YOU COUNT?
- NOW TAKE ONE ROCK BAG APART AND PLACE THE ROCKS IN A CIRCLE.



<https://s-media-cache-ak0.pinimg.com/236x/b7/d8/08/b7d80819c71e369eb975f3d74c8aae27.jpg>

- CHANGE THE ORDER OF THE ROCKS.
- DOES THAT CHANGE THE NUMBER OF ROCKS?

YES, NO, ?

PARKING LOT FOR THINGS THAT GO:

- MAKE A PLAN FOR A PARKING LOT FOR OUR TOY CARS. ☺



<http://1.bp.blogspot.com/-mfWadFsqfM4/T3z01QH7UEI/AAAAAAAAACDQ/qk0CUeYBgY8/s1600/Feb.+2+2010+220.jpg>

Parking Project Idea....

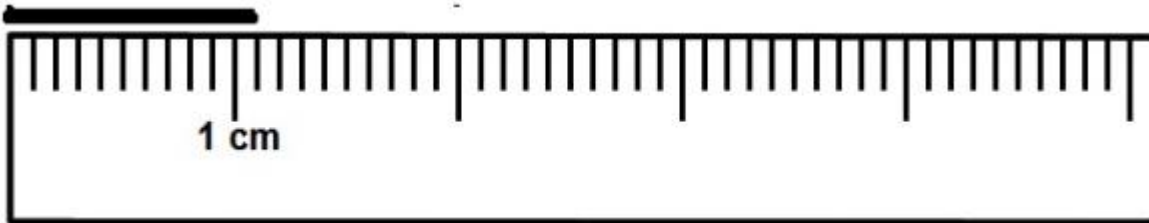
Maybe we can find a store with a local parking lot we can number the car spots?

1. We would need to count the spaces first.
2. Then make a plan with numbers.
3. Then we would need to make stencils for each number. (Maybe we would want to put a picture of a tree beside each number, so we would need a stencil for it, too.)
4. Then we would need to find paint that would look good and stand out.
5. We would take pictures at each stage of the project – and maybe survey customers to see if they noticed the numbers and liked them – or not.

- NOW CHOOSE 1 LARGE AND 1 SMALL PEBBLE FROM YOUR COLLECTION.
- USING A RULER OR MEASURING TAPE, MEASURE THE SIZE OF EACH PEBBLE IN MILLIMETERS (mm).

BIG PEBBLE	Mm
SMALLER PEBBLE	Mm

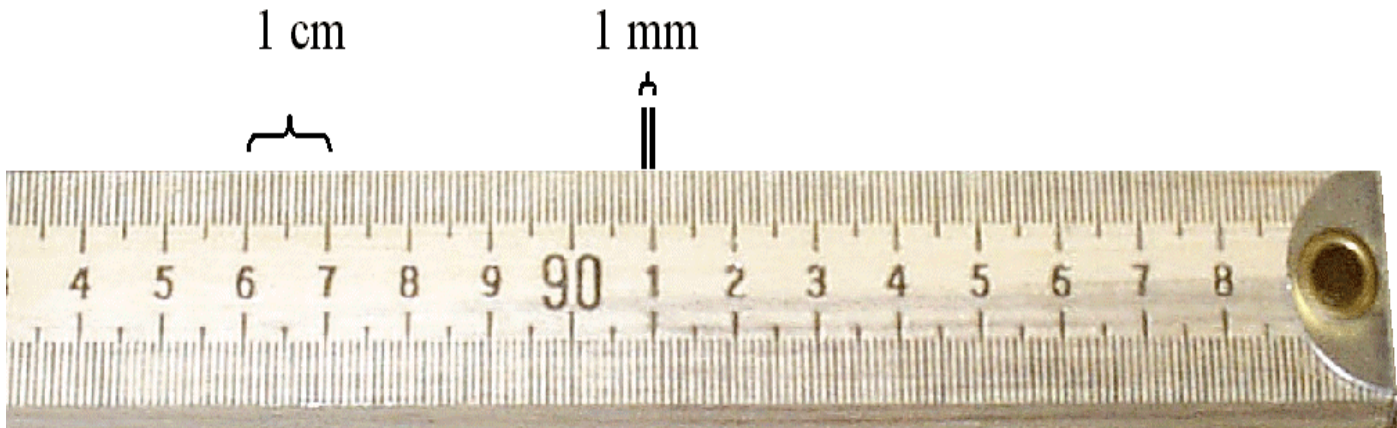
- LOOK AT THE MEASURING TAPE BELOW.
- HOW MANY mm DO YOU THINK IS INSIDE A CENTIMETER (cm)?



http://www.mathatube.com/sitebuilder/images/Ruler-11_mm-line_segment-585x116.jpg

I THINK THERE ARE _____mm INSIDE 1 cm.

- NOW CHECK OUT A METER ON A METER STICK OR MEASURING TAPE.
- COUNT EACH mm TO GET TO 100.



http://thesciencebeat.pbworks.com/f/1279732003/meter_stick.gif

- PRINT ALL THE NUMBERS THAT BEGIN WITH:

TWENTY (20)									
THIRTY (30)									
FORTY (40)									
FIFTY (50)									

1	11	21	31	41
3	13	23	33	43
5	15	25	35	45
7	17	27	37	47
9		29		49
10	20	30	40	50

GETTING TO 100

- NOW PRINT ALL THE NUMBERS THAT BEGIN WITH:

SIXTY (60)									
SEVENTY (70)									
EIGHTY (80)									
NINETY (90)									

- PLAY BINGO TO PRACTICE CALLING OUT NUMBERS BETWEEN 1 & 100.

B	I	N	G	O
12	80	98	94	58
95	32	31	84	81
8	92	Free Space	23	83
30	49	68	91	99
66	54	40	10	37

<http://www.bingocardprinter.com/bingo-cards/numbers-1-to-99-bingo-card.png>

- FILL THIS CHART IN WITH 55 NUMBERS:

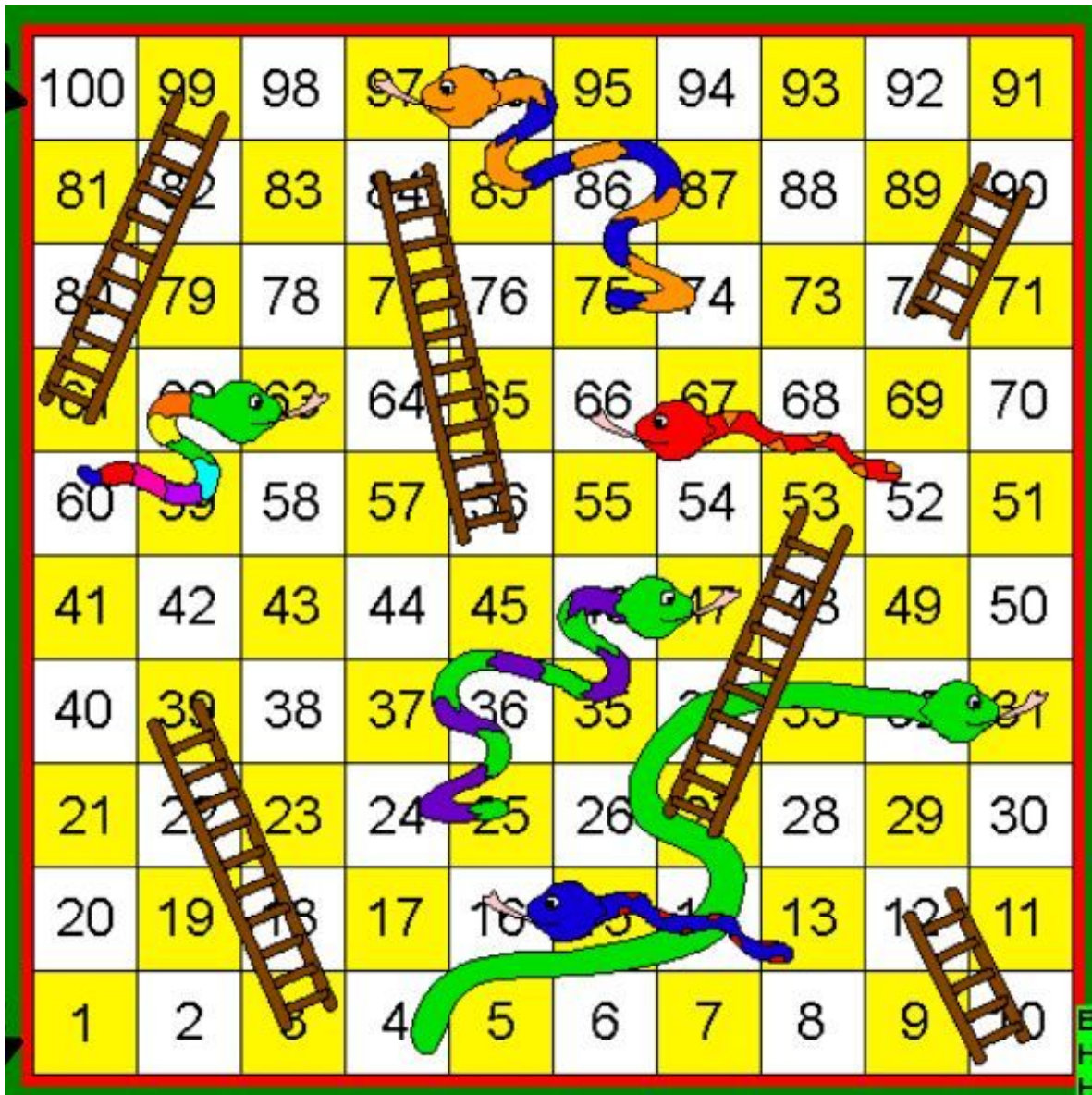


Fill in the
MISSING NUMBERS!



11	12	13	14	15	16	17	18	19	
31	32	33	34	35	36	37	38	39	
51	52	53	54	55	56	57	58	59	
71	72	73	74	75	76	77	78	79	
91	92	93	94	95	96	97	98	99	

- IN SNAKES & LADDERS, THE LADDERS TAKE YOU UP AND THE SNAKES TAKE YOU DOWN.
- WITH YOUR PARTNER, TAKE TURNS ROLLING THE DICE AND SEE WHO CAN GET TO 100 FIRST.



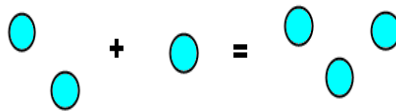
<https://s-media-cache-ak0.pinimg.com/736x/26/65/d6/2665d68f67fa65bae3ea759ee12d1ee9.jpg>

Extent it! Identify & differentiate between odd & even numbers.

6. Extend it! Use Objects to Add & Subtract Within 5

STEP OUTSIDE:

- LOCATE 5 STONES OUTSIDE AND COLOUR OR PAINT 2 OF THEM GREEN.
- USING THE STONES SHOW YOUR TEACHER THE NUMBER SENTENCE BELOW:

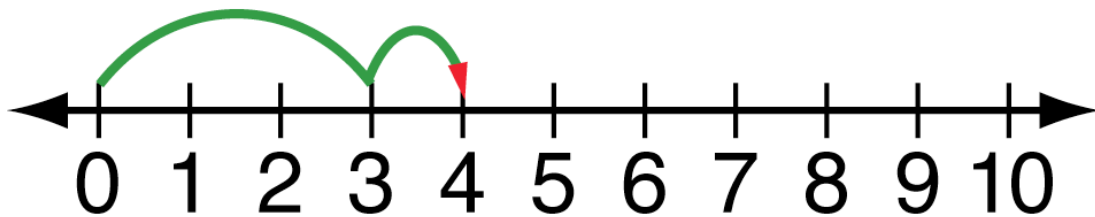


$$2 + 1 = 3$$

<https://dj1hlxw0wr920.cloudfront.net/userfiles/wyzfiles/fa7b6bbf-b22f-4d92-8af3-d9c73633405d.gif>

- TRY USING A NUMBER LINE TO ADD SMALL NUMBERS.

$$3 + 1 = 4$$



http://1.bp.blogspot.com/_3cvpfoj7mb8/SwxPbgCclil/AAAAAAAAA_o/5li5rh0-2y0/s1600/Number+Line.png

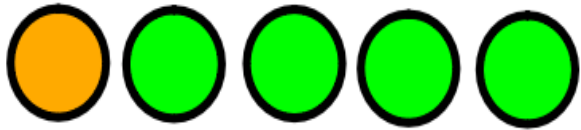
- NOW USE YOUR STONES TO HELP FIGURE OUT THE ANSWERS TO THESE ADDING QUESTIONS.

⊙	⊙	✓
Name _____	Name _____	Name _____
ADDITION +1	ADDITION +1	ADDITION +1
1+1= _____	5+1= _____	5+1= _____
2+1= _____	2+1= _____	4+1= _____
5+1= _____	3+1= _____	3+1= _____
0+1= _____	4+1= _____	2+1= _____
3+1= _____	1+1= _____	1+1= _____
4+1= _____	0+1= _____	0+1= _____
BONUS	BONUS	BONUS
2 4 3	4 1 2	2 1 3
+1 +1 +1	+1 +1 +1	+1 +1 +1

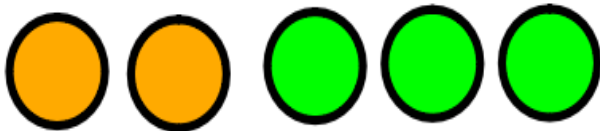
<https://s-media-cache-ak0.pinimg.com/736x/c1/57/18/c157182e88da3c35ffe3e51fb41d037b.jpg>

- LOOK AT THE SAMPLE BELOW AND MAKE AN ADDING QUESTION WITH THE ANSWER FOR EACH:

1 and 4 makes 5



2 and 3 makes 5

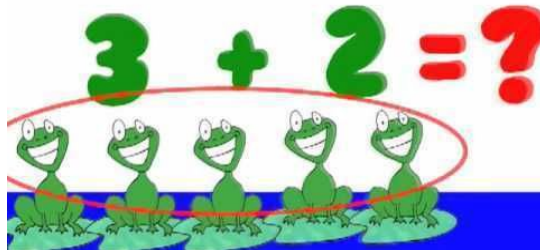


<http://www.cobblelearning.net/comptonmath/files/2015/05/add-2ffgwth.png>

- MAKE YOUR OWN ADDITION MACHINE TO PLACE AT A LEARNING POD TO PRACTICE ADDITION.
- THERE ARE 5 FROGS ON 5 LILY PADS.
- WORK WITH A PARTNER TO MAKE 2 FROG ADDITION QUESTIONS THAT ADD UP TO 5.

<https://s-media-cache->

HOW MANY FROGS WERE THERE ALL TOGETHER?



ak0.pinimg.com/564x/5d/30/13/5d30139d1b5955afbe379a24dee219e7.jpg



FROG ADDITION QUESTIONS

- YOU CAN DRAW PICTURES TO FIGURE OUT HOW TO SUBTRACT.

Tom had 5 apples. He ate 2.

How many apples does Tom have left?

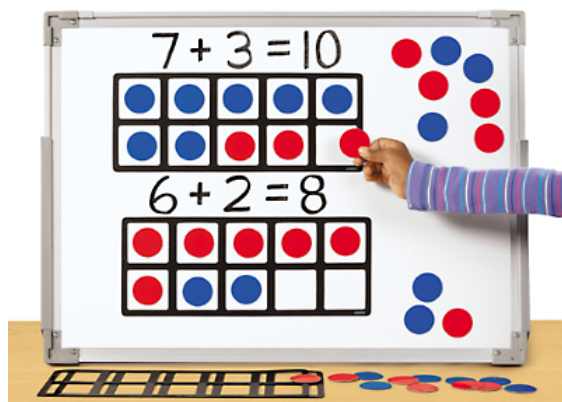


<http://www.cobblearning.net/comptonmath/files/2015/05/subtraction-1cmtr03.png>

- THINK UP 2 SUBTRACTION PROBLEMS ABOUT THINGS WE HAVE AT SCHOOL. DRAW THE TOTAL AND THEN STRIKE OUT WHAT WAS SUBTRACTED TO FIND THE NEW TOTAL.

7. Add & Subtract Within 10.

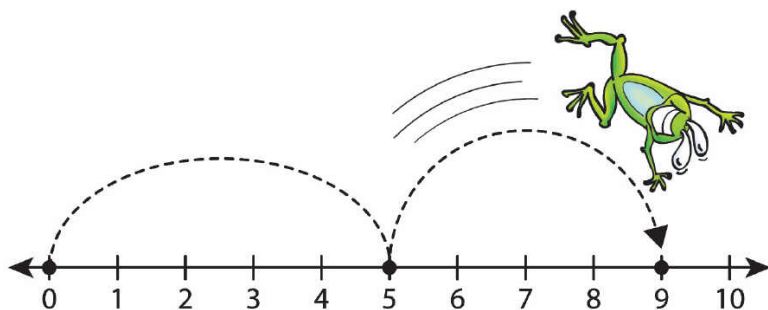
- YOU CAN USE TEN FRAMES TO ADD.
- LOOK AT THE EXAMPLE AND CREATE YOUR OWN QUESTION AND ANSWER TO SHARE WITH YOUR PARTNER OR TEACHER.



http://s7d2.scene7.com/is/image/lakeshore/pp939?id=G4fvR3&fmt=jpg&fit=constrain,1&wid=400&hei=300&fmt=jpeg&qlt=100,1&op_sharpen=0&resMode=bilin&op_usm=5,0.25,25,0

- WHAT IS THE ADDITION QUESTION AND ANSWER FOR THE FOLLOWING NUMBER LINE PICTURE?

_____ + _____ = _____



<https://illuminations.nctm.org/uploadedImages/Content/Lessons/Images/preK-2/355-frogline-smaller.jpg>

- SEE HOW THE NUMBER LINE CAN HELP YOU SUBTRACT!

Subtraction using a Number Line

$$10 - 6 = 4$$

www.communication4all.co.uk

<http://www.communication4all.co.uk/Screen%20Shot%20Images/SCP.png>

Counting Back

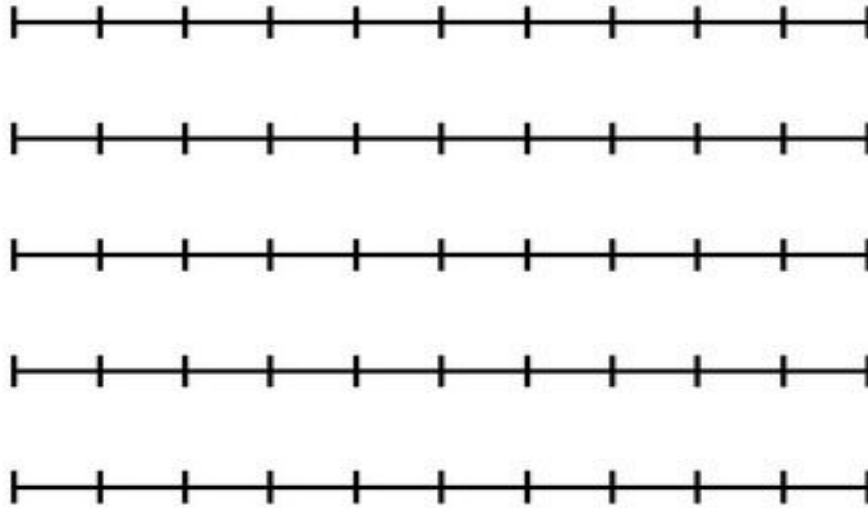
- Put the **BIG** number in your head.
- Count backwards!

$$7 - 4 = 3$$

1 2 3 4 5 6 7

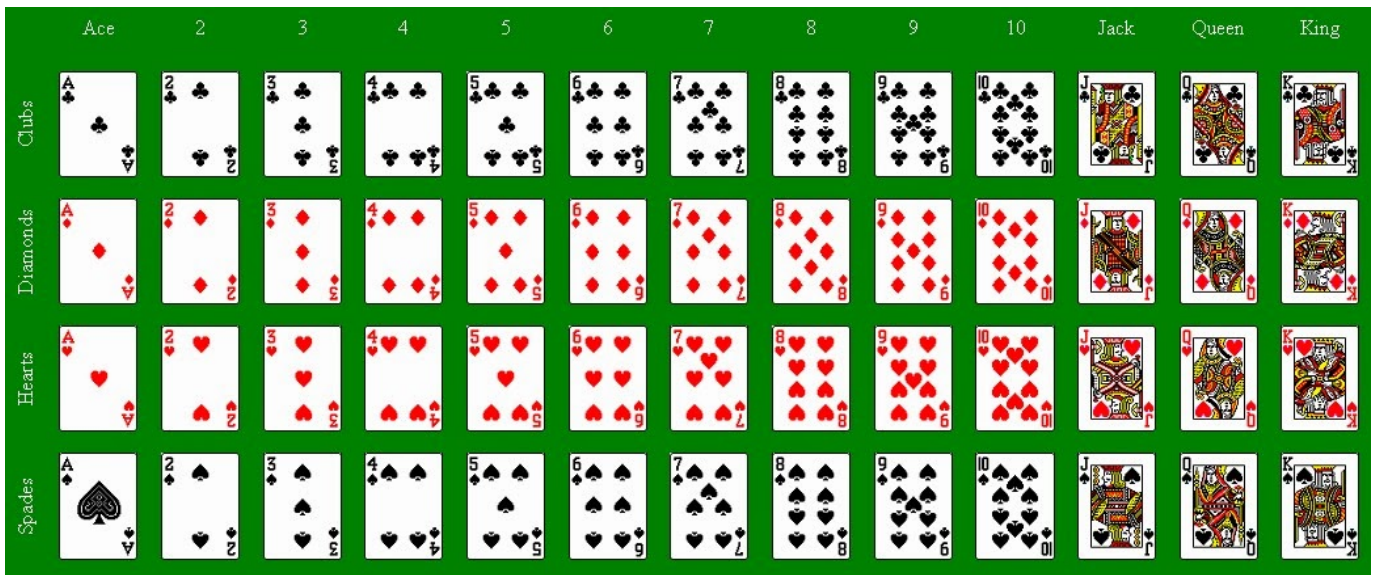
<https://www.pinterest.com/pin/162129655306838147/>

- MAKE AT LEAST 2 ADDING AND 2 SUBTRACTING QUESTIONS USING THE NUMBER LINES:



READING CARDS:

- THERE ARE 13 CARDS IN EACH SUIT.
- READ ALOUD AND ORGANIZE YOUR CARDS LIKE THIS:



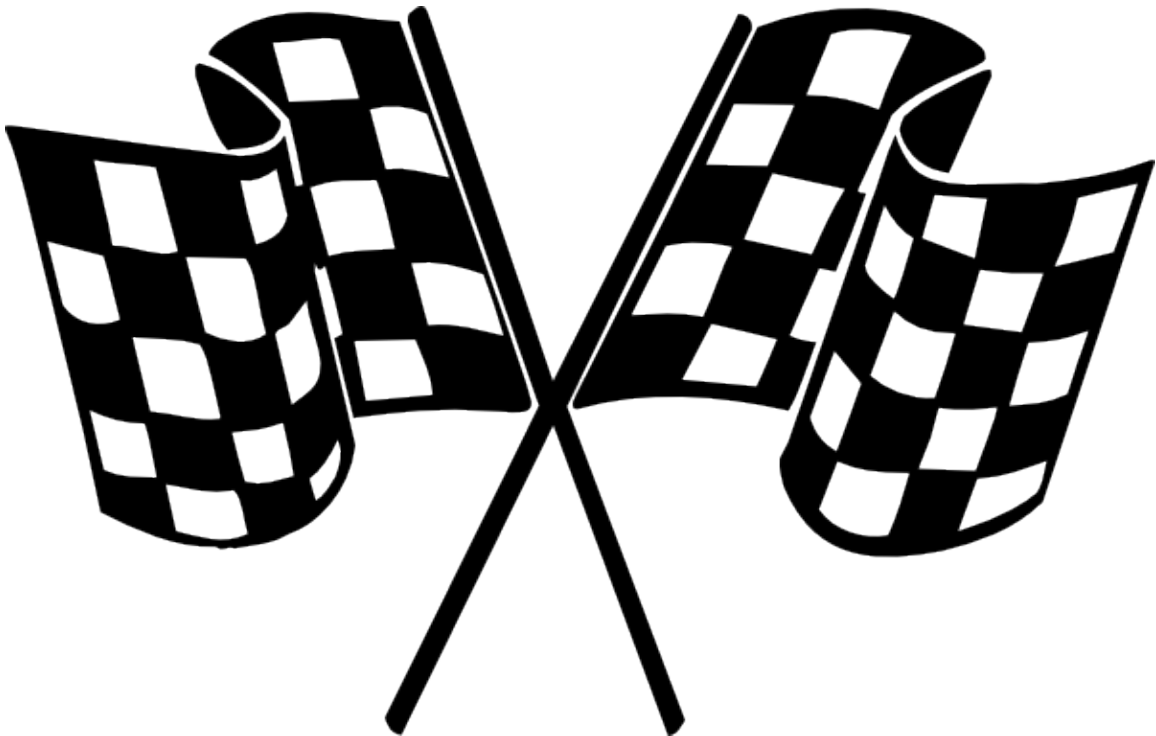
http://qb9.biz/wp-content/uploads/2016/02/deck_of_cards_random_28879_1042_438.jpg

THE ALPHABET PATTERN

- WHAT IS THE SECOND, FOURTH AND FIFTH LETTER OF THE ALPHABET.
- PLACE THE LETTER INSIDE THE THIRD (3rd) Column:

SECOND	2 nd	
FOURTH	4 th	
FIFTH	5 th	

IF **Z** WAS IN A RACE, AND CAME LAST, Z WOULD COME IN
_____th PLACE.

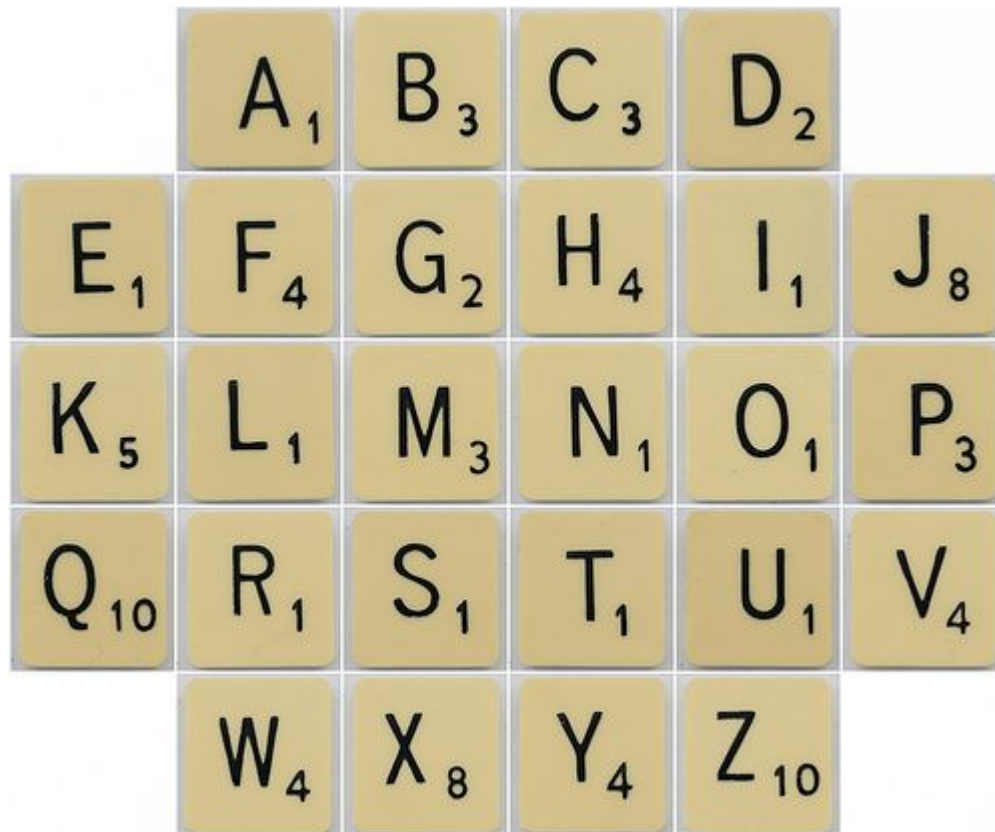


https://img.clipartfest.com/0fd494dd89a1b72c3f9986334c47f69a_checked-racing-flags-clip-race-car-flags-clipart_600-381.pn

Extend it! Scrabble Fun

- How much does your first and last name add up to?

NAME	MARK	BROWN	POINT TOTAL
POINTS	$3+1+1+5$	$3+1+1+4+1$	20



<https://s-media-cache-ak0.pinning.com/564x/ab/83/55/ab83550992a0ad823ab831bc5ff57c7c.jpg>

NAME			POINT TOTAL
POINTS			

- FILL IN DOMINOES WITH THE MISSING DOTS.

NAME: _____

WHAT'S MISSING?

Directions: Look at the number above the domino. How many more spots are needed on the domino to get to that number? Show and show.

6 ●●●●●●	2 ●	7 ●●●●●●
5 ●	4 ●●	9 ●●●●●●●●
8 ●●●●●●●●	3 ●●●	7 ●●

Can you count by 1s?
Can you count by 2s?
Can you count by 5s?

STEP OUTSIDE:

- LOCATE 10 ITEMS YOU CAN USE TO MAKE ADDITION QUESTIONS WITH. (NOT TOO BIG).



http://naturalstart.org/sites/default/files/styles/home_image_main/public/istock_kids_stem.jpg?itok=31UavzLI

- MAKE UP 1 ADDING SENTENCE TO SHARE WITH THE CLASS USING 2 HOOPS, STICKS FOR AN = SIGN AND THE NUMBER 10 DRAWN OUT WITH DIRECT IN THE ANSWER SPACE.
- SHARE YOUR ADDING STORIES.

- THEN HAVE HOT CHOCOLATE AND MARSHMALLOWS.
- CREATE PAPER MARSHMALLOWS TO USE AS COUNTERS TO COMPLETE THESE ADDITION QUESTIONS.

Add it Up!

Name: _____


$8 + 2 =$ _____

$3 + 4 =$ _____

$9 + 1 =$ _____

$7 + 3 =$ _____

$4 + 2 =$ _____













$2 + 2 =$ _____

$9 + 0 =$ _____

$6 + 4 =$ _____

$3 + 3 =$ _____

$5 + 1 =$ _____

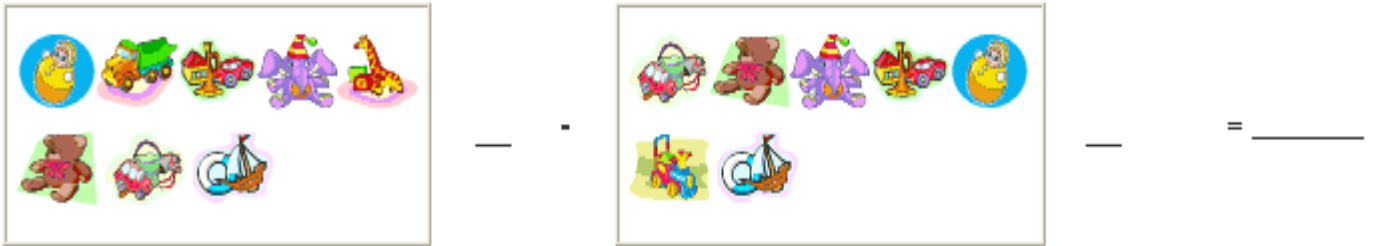
	
	
	
	
	

Cut out the marshmallows.
Use the marshmallows to help you solve the problems.

http://3.bp.blogspot.com/-Alx86_8am6Q/VlIFiRPECHI/AAAAAAAAA_w/502ggOwaWv4/s1600/marshmallows.png

- LOOK AT THE PICTURES BELOW TO SEE HOW MANY ITEMS ARE LEFT.
- PUT YOUR ANSWERS IN THE BLANKS.

Visual Math



<https://cdn-media1.teachertube.com/static-pages/img/addition-worksheets-5-6-year-olds.gif>

Extend It:

- Move to the primary Addition and Subtraction activities that include adding & subtracting within 100.

8. Sort Objects & identify & A/ B pattern

- CHECK OUT THE FIRST 3 AB PATTERNS:

A	B	A	B	A	B	A	B	A	B

A	B	A	B	A	B	A	B	A	B

A	B	A	B	A	B	A	B	A	B

A	B	A	B	A	B	A	B	A	B

[http://2.bp.blogspot.com/-](http://2.bp.blogspot.com/-vrNdQdYGCnl/UEPNbxYe11I/AAAAAAAAABeU/3mCRAkn0XW4/s1600/Screen%2BShot%2B2012-09-02%2Bat%2B4.03.03%2BPM.png)

[vrNdQdYGCnl/UEPNbxYe11I/AAAAAAAAABeU/3mCRAkn0XW4/s1600/Screen%2BShot%2B2012-09-02%2Bat%2B4.03.03%2BPM.png](http://2.bp.blogspot.com/-vrNdQdYGCnl/UEPNbxYe11I/AAAAAAAAABeU/3mCRAkn0XW4/s1600/Screen%2BShot%2B2012-09-02%2Bat%2B4.03.03%2BPM.png)

- CREATE YOUR OWN COLOUR AB PATTERN BY CRAYONING IN THE FOURTH LINE WITH 2 COLOURS.

STEP OUTSIDE:

- TAKE 2 HOOPS TO PLACE ON THE GROUND.
- AS A CLASS, FIND 5 THINGS YOU CAN PICK UP OUTSIDE THAT ARE SIMILAR (Please do not break branches or pull leaves off plants)
- PLACE THESE ITEMS INSIDE 1 HOOP.
- THEN FIND 5 DIFFERENT THINGS THAT YOU CAN PLACE IN THE OTHER HOOP.



<https://static1.squarespace.com/static/52d58d36e4b0c4f1c24c2694/t/5549060de4b0cfe65e28e024/1430849039739/>

- MAKE AN AB PATTERN BY PUTTING 1 THING FROM EACH HOOP BESIDE EACH OTHER TO FORM A LINE.
- MAKE AN AB PATTERN BRACELET WITH BEADS.

MUSICAL PATTERNS

- USE YOUR HANDS TO CLAP ONCE FOR "A" AND 2 TIMES FOR "B". REPEAT.

EXTEND IT! FAME NAME GAME GESTURE

- EVERYONE SITS IN A CIRCLE AND CHOOSES AN ACTION TO SAY WITH THEIR NAME.
- EVERYONE REPEATS EACH ACTION AND ADDS ON TO IT TO MAKE A PATTERN:

A, AB, ABC, ABCD, ABCDE, ABCDEF, ABCDEFG, ABCDEFGH
(IF THERE ARE 8 PEOPLE AROUND THE CIRCLE)

- DESCRIBE THE ORDER, WHO GOES AFTER WHOM?
- SHOW YOUR TEACHER YOU KNOW WHAT AN AB PATTERN IS, BY USING 2 DIFFERENT COLOURS OF BUTTONS.



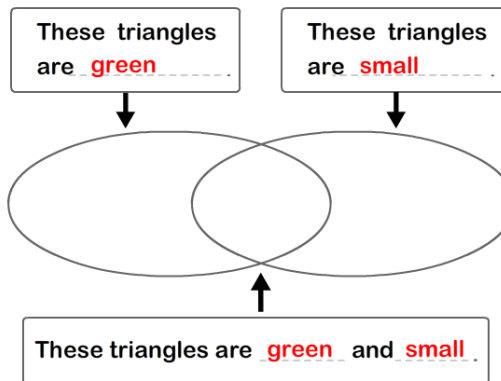
I can make AB patterns...
like a Trailblazer, Pathfinder or still
need to practice (NY).

Extend it.

Try making AABB patterns using bingo dabbers.

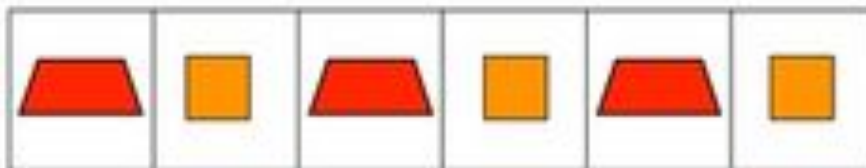
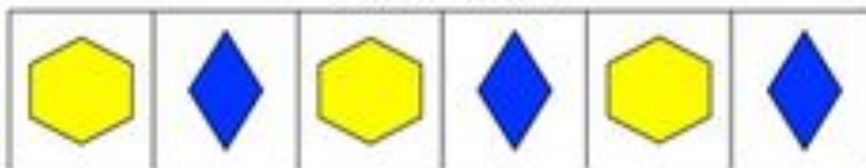
- USE A VENN DIAGRAM TO SEE 2 PATTERNS AT THE SAME TIME:

Draw each figure inside the venn diagram.



<http://cdn.turtlediary.com/worksheets/question/count-objects-and-create-venn-diagrams.png>

ABAB Patterns



MAKE YOUR OWN AB PATTERN WITH 2 DIFFERENT SHAPES AND COLORS.

<https://s-media-cache->

ak0.pinimg.com/236x/c0/48/db/c048db16e688f0e97ad7db6f4469e267.jpg

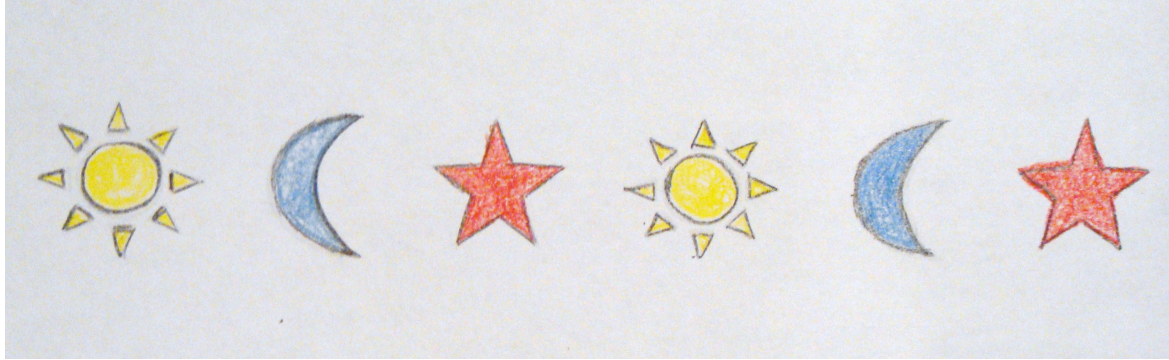
- MAKE LEGO PATTERNS WITH 10 PIECES OF LEGO TO SHOW WHAT HAPPENS NEXT IN EACH PATTERN:



<https://s-media-cache-ak0.pinimg.com/236x/41/66/7d/41667d1311b93a32ffc9fa2adbf83236.jpg>

9. Identify & Construct A/ B/ C Pattern

- LOOK AT THE ABC PATTERN AND TELL YOUR TEACHER WHAT WOULD COME NEXT AFTER THE STAR.



- MAKE YOUR OWN ABC DESIGN FOR WALLPAPER YOU WOULD LIKE TO HAVE IN YOUR BEDROOM.

I can create an ABB pattern.



I can create an ABC pattern.



MAKE THESE PATTERNS WITH 10
PIECES OF LEGO.

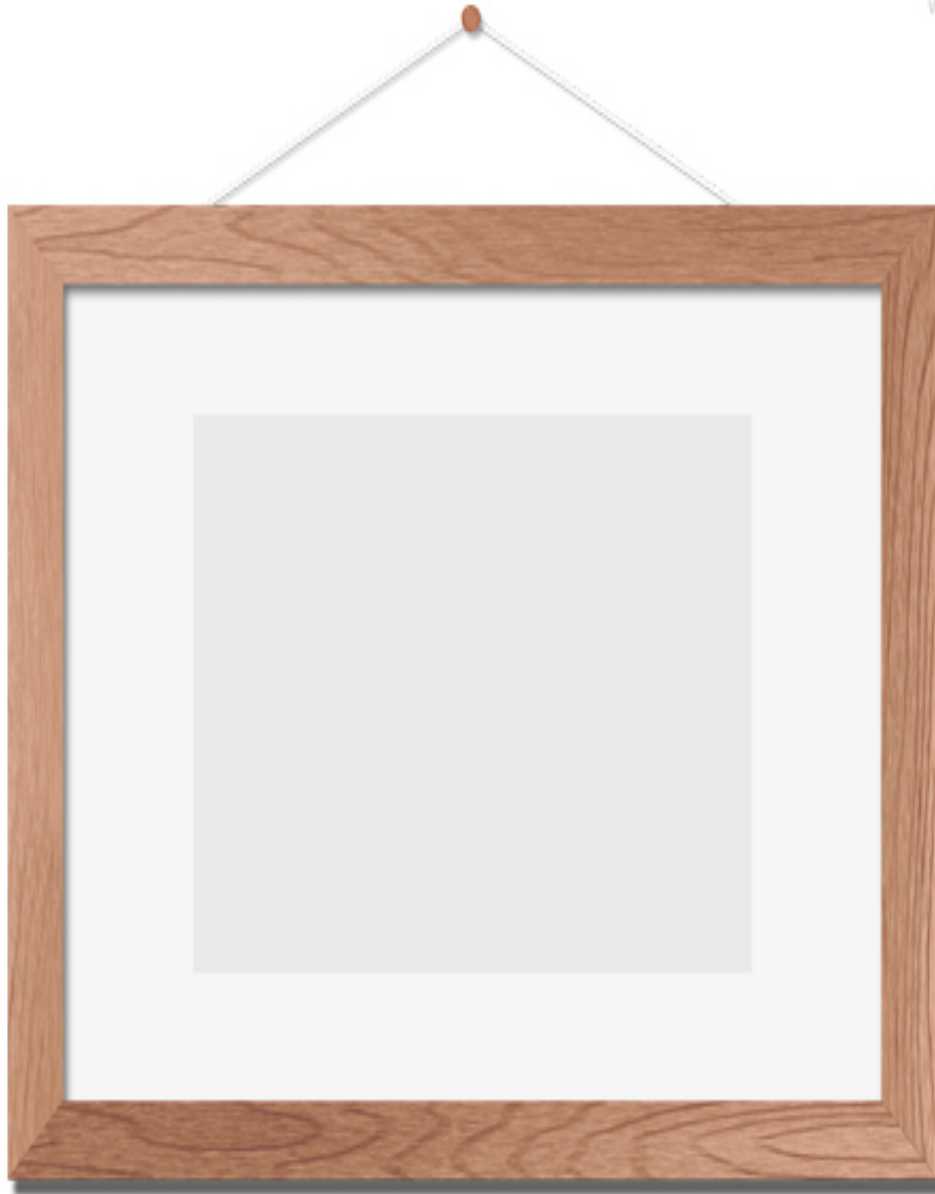


DO YOU SEE ANY PATTERNS ON
THESE PICTURE FRAMES?

http://www.firstpalette.com/Craft_themes/People/craftstickphotoframe/steps-images/craftstickphotoframe-mainpic.jpg

- **MAKE YOUR OWN PICTURE FRAME USING AN ABC PATTERN.** (Draw it here- or take a photo of your frame and place it here.)

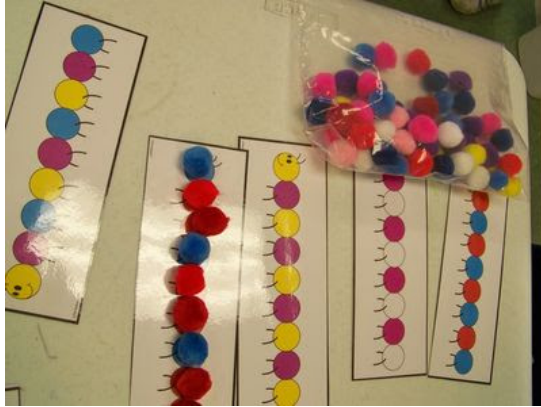
www.psdgraphics.com



<http://www.psdgraphics.com/wp-content/uploads/2013/07/photo-frame-template.jpg>

Extend it:

- Create a furry bug with a different pattern than AB or ABC...



Extend it: Work on your own or with a partner to make 3 bugs with 100 parts:

- (a) One with an AAAAAAAAAABAAAAAAAAAB pattern
- (b) One with a AAAABAAAAB pattern
- (c) And one with an ABAB pattern

Then skip count by 10, 5, and 2 to make sure all the parts are in each bug



Do you think a centipede has 100 legs?

<http://www.mississaugapestcontrol.ca/images/Centipedes.jpg>

- Look in your STEM Library to see if this is true or not!

10. Toy Factory Project

- TIME TO PREPARE OUR RECYCLED TOYS FOR OUR TOY FACTORY.

IF WE WERE GOING TO MAKE A TOY FACTORY IN A SECTION OF OUR STEM LIBRARY, HOW WOULD WE ORGANIZE SPACE TO DISPLAY OUR TOYS.

- HOW COULD WE USE A TAPE MEASURE TO HELP US?
- HOW MANY cm's WIDE, LONG & HIGH IS OUR TOY?

LENGTH (LONG) _____

WIDTH (WIDE) _____

HEIGHT (TALL) _____

- NOW ADD UP THE SIZE OF EVERYONE'S TOY TO FIND OUT HOW MUCH SPACE IS NEEDED.
- NOW MEASURE THE COUNTER SPACES IN THE STEM LIBRARY TO FIND OUT IF YOU NEED TO SET UP MORE TABLES TO DISPLAY OUR TOYS.

THINK ABOUT HAVING SPACES BETWEEN EACH TOY AND HAVING A SPACE TO PUT UP A SIGN FOR EACH TOY, TOO.

INVITE THE WHOLE SCHOOL TO CHECK OUT OUR TOY FACTORY!

(Students in upper grades can write Toy Reviews for their Learning Buddies).

Part Numbers

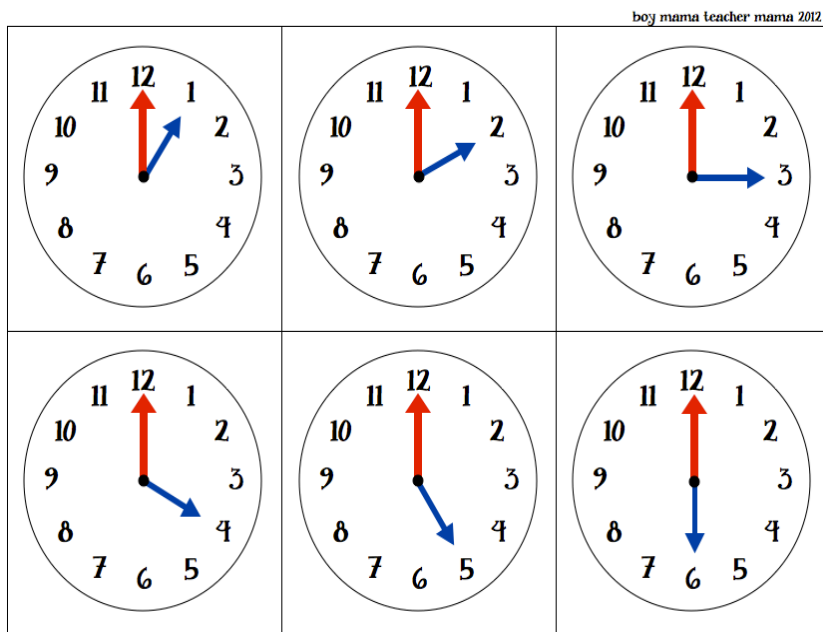
I can or I will... (Diagnostic)	Teacher Check In (check or NY)
Identify parts of wholes (flowers, animals, people)	
Identify half of whole using concrete images & objects	
Identify the need for money	
Solve problems by using coins	
Identify time to the hour digitally	
Identify time half hour	

1. Identify parts of car 😊 (Draw and explain)
2. Show your teacher how to make a half of a whole using Lego.
3. Explain what money is used for.
4. How much money will you save if you put 40 cents and 50 cents into your piggy bank?

5. How much will you get back from a dollar in change if you spend 50 cents?

6. Draw a clock to show 4:00.

7. Change these clocks to make them show time to the half hour.

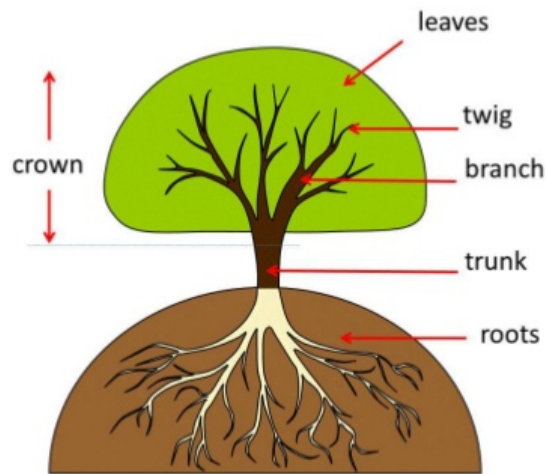


<https://boymamateachermamadotcom1.files.wordpress.com/2012/09/screen-shot-2012-09-02-at-3-43-18-pm.png>

11. Identify Parts of Wholes

- Look at a **WHOLE** tree, and the smaller parts.

Parts of a Tree



<https://image.slidesharecdn.com/treesofthetongass-150401161802-conversion-gate01/95/trees-of-the-tongass-4-638.jpg?cb=1427925458>


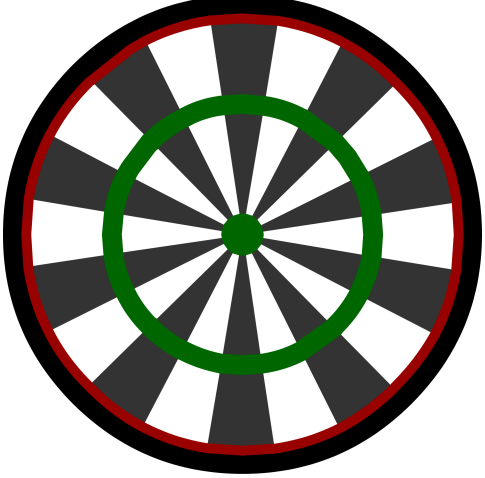
The smaller parts we can say are **FRACTIONS** of a **WHOLE** tree.

STEP OUTSIDE and find a tree and see if you can find the small parts of the tree.

- Do you think it is easier to find parts in the fall, spring or winter?
- Find a book from the **STEM** Library about nature.

- Find an animal or flower to create a 'whole and parts' story (like the tree). Draw it and label the fractions below:

- When we order one pizza, we can split it into many parts or fractions.
- A dart board has many smaller parts or fractions.
- How many parts are in each whole?

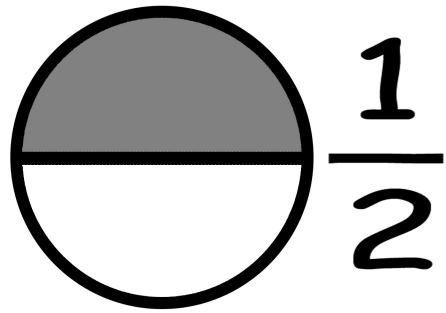
	
<p>This pizza has _____ parts.</p>	<p>This dart board has _____ parts.</p>

- The more parts the (larger or smaller) the size of each section.
- The bigger the number of pieces, the (larger or smaller) the size of each piece.

12. Identify Half of Whole (using concrete images & objects)

- Just like a living thing can have many parts or fractions, so too, can a number be split into different parts.

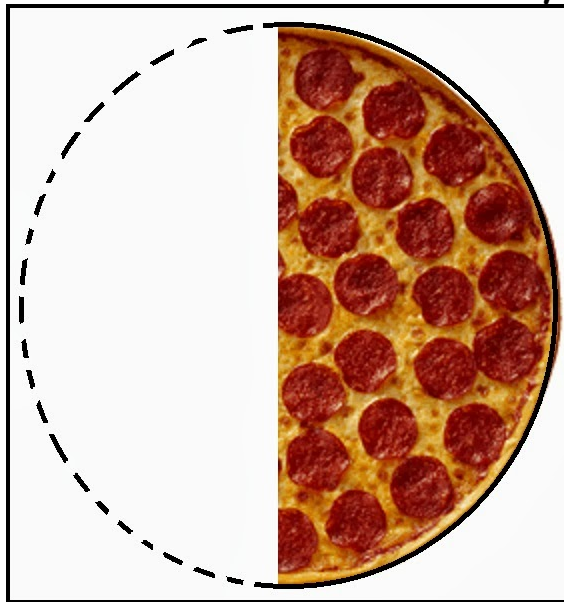
1 whole = 2 halves or $\frac{1}{2}$'s



one-half

<http://kingofwallpapers.com/half/half-001.jpg>

- Look at this pizza after someone was very hungry.



<http://www.clipartkid.com/images/294/pizza-triangle-free-cliparts-that-you-can-download-to-your-computer-X8QcAS-clipart.jpeg>

- Our school Kindness Garden will be planted with $\frac{1}{2}$ flowers and $\frac{1}{2}$ vegetables.
- Use a measuring tape to find $\frac{1}{2}$ of the length of the garden to find out how long the flower part of the garden will be.

.. $\frac{1}{2}$ of the length of our garden is: _____cm.

- Measure the width of the garden: _____cm.
- How many plants do you think we need to buy?

_____ because _____

Draw and label images of these $\frac{1}{2}$ things that flow...

1 kindergarten girl and 1 kindergarten boy wanted a glass of milk. When there was only 1 glass left - they shared it, by having a $\frac{1}{2}$ of a glass of milk each.

They had a $\frac{1}{2}$ cup.

The school wanted to go on a trip to Algonquin Park, but the gas tank was only $\frac{1}{2}$ full. Mr. Rogers had to fill it up with a whole tank of gasoline, so they could visit the park and return safely.

Using a measuring cup, find out how much $\frac{1}{2}$ a cup of honey is in milliliters.

There are about _____ mL in a $\frac{1}{2}$ cup.

- Circle the kind of milk you like to drink?

Whole Milk

2% Milk

Skim Milk

Chocolate Milk

Lactose Free Milk

Almond Milk

Other

- Survey the class to find out what is the most common milk students drink!
- Your teacher will create a class graph to share these findings.

Milk carton's come in three sizes. Search for their sizes in mL and order them from smallest to largest in size:

_____ - smallest

_____ - medium (in between)

_____ - larger

- Draw 6 images of wholes split in 2 parts (1/2) (1/2).

https://www.google.ca/search?q=half&source=Inms&tbm=isch&sa=X&ved=0ahUKEwjiv6_pyNnSAhUIwVQKHc8ZCREQ_AUICCGB&biw=1280&bih=536#imgrc=-iv7HmbnsfhXJM

Images of Half:

Extend It:

- Divide shapes into equal quarters using images & objects.

13. Identify the Need for Money

Money is what we use to make sure we have:

- a place to live
- food to eat
- clothes to wear
- a way to get places (car, bus, train, plane, boat)
- a way to pay for things we do for fun
- a way to pay for college
- gifts to give

• Why is it a good idea to save money?



- Which words go with which picture:
 - (a) nickel
 - (b) toonie
 - (c) penny
 - (d) dime
 - (e) quarter
 - (f) loonie
- Put the letter in the box.
- Put an "L" beside the larger coins and a "S" beside the smallest coin.
- Make a Money Dipper like this with Canadian coins.



Step Outside:

Go on a penny walk. After 20 paces, flip the coin. Heads you turn right, tails you turn left. How many flips did we take to reach the edge of the school yard?

14. Solve Problems by Using Coins

Toy Store

- Let's plan on opening a store to sell our recycled toys (inside our Toy Factory)
- In pairs, you can take turns being the buyer and the seller.
- Decide what prices to charge for your toy and make a price tag for it. The buyer will have school cash (pretend Canadian money).
- You can make your own cash register, too



<https://s-media-cache-ak0.pinimg.com/236x/da/ec/05/daec053b5189e6b4d556009fe03cb672.jpg>

Field Trip Ideas:

- Visit a local toy store and observe how the store works.
- Be sure to ask at least 2 questions.

- To run your store, you will need your school's Money Manager Degree.
- To graduate with your Money Manager degree, you will need to know:
 1. How many cents in a toonie: _____
 2. How many cents in a loonie: _____
 3. How many cents in a quarter: _____
 4. How many cents are in a dime: _____
 5. How many cents are in a nickel: _____

Extend It:

- Make your own paper bills and solve problems by using coins & paper money.



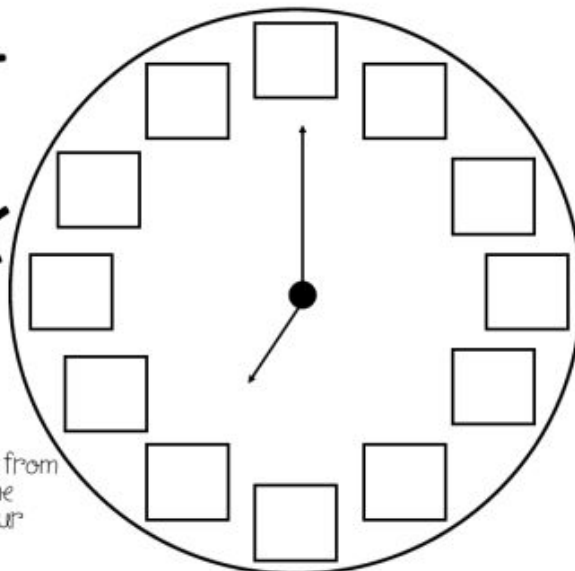
15. Identify Time to the Hour Digitally

Step Outside:

- Make a clock with stones using 12 rocks numbered 1,2,3,4,5,6,7,8,9,10,11 & 12.



build-
a-
clock



Choose a number tile from the bag. Place it on the correct space on your clock. Play until you complete your clock.

<https://s-media-cache-ak0.pinimg.com/736x/5b/8e/c7/5b8ec75d0a586ce2dd75d71b165e28ef.jpg>

Telling The Time



www.free-for-kids.com

<https://s-media-cache-ak0.pinimg.com/236x/76/09/5e/76095e8c9a43dbc14d29eb1274aef197.jpg>

Name _____

Telling Time



3:00

8:00

4:00

10:00

6:00

11:00

2:00

7:00

© Miss Gault

Match
the
clock
to
the
correct
time.



<https://s-media-cache-ak0.pinimg.com/736x/dd/77/a4/dd77a49dd55f84715ef14a6f46e9351b.jpg>

Date: _____ Name: _____



What TIME is it?

Directions: read the clock and write the time on the line



— : —



— : —



— : —



— : —



— : —



— : —



— : —



— : —



— : —



— : —

Ms Makinson TpT, 2014

<https://s-media-cache-ak0.pinimg.com/736x/3f/2c/de/3f2cde053cfd81b7efb2efce8155b51.jpg>

16. Identify Time Half Hour

Time to the half hour means that the long arm of the clock is pointed at the 6.



<https://s-media-cache-ak0.pinimg.com/736x/f1/57/7f/f1577f943528fcb22a308b9fc0f96469.jpg>










- Make 2:30.



https://printables.scholastic.com/content/stores/printables/media/70/9780545130370-011_p05_428x473.jpg

TELL THE TIME

Draw the hands on each clock to match the time on the digital clock!

 2:00	 4:30	 8:00
 1:00	 5:30	 9:30
 4:00	 11:00	 7:30

© Daley West

<https://s-media-cache-ak0.pinning.com/564x/a1/d6/c8/a1d6c835b4e89ae586949d66686a1c72.jpg>

Extend It:

- Identify time as quarter to & quarter past the hour.

Geometry

I can or I will... (Diagnostic)	Teacher Check In (check or NY)
Identify circles & oval shapes inside real images & objects	
Identify difference between square & rectangle	
Show where the center of a circle is	
Identify the halfway point of a line	
Identify & sort 3D objects by size and color	
Use objects to measure larger objects	

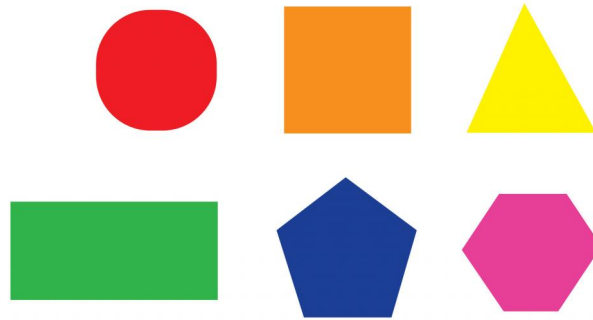
1. Draw an oval and circle and explain how they are different.

2. Draw a square and a rectangle and explain how they are the same and different.

3. Draw a circle and put a point in the center.

4. Draw a line and add in the midpoint.

5. What are these figures called?



<https://s-media-cache-ak0.pinimg.com/originals/6f/7c/87/6f7c87a0f86a7d1c7a974b88bd4d6e5f.jpg>

6. Trace your hand and then show how many cubes fit on a handprint.

17. Playground Engineer



<http://www.play-scapes.com/wp-content/uploads/2014/05/kukuk-natural-creative-playground-design11.jpg>

Theory:

You can be like engineers when you design a green, affordable and fun playground.

Materials:

Paper, recycled cardboard, duck-tape, clear tape, crayons, poster paper, laptop or iPad.

- You may need more materials - Draw them below:
-

Task (Method):

1. Look at images of some interesting playgrounds (in this Learning Log and on the web)
2. Draw a web of things you and your partner would like to see in a playground on poster paper.
3. Go on a field trip to take pictures of playgrounds in the area.
4. Return to your web and add more ideas and details.
5. Think about how to reduce the nature footprint of your playground - and make changes.
6. Think about how to afford the price of material for the playground - and make changes.
7. Think about how to make your playground safer.
8. Begin to build a mini model of your playground.
9. Display model playgrounds and share with all students and staff.

10. Complete a survey (teacher made) about the different parts of the playground that you would like to see in a Kinder and Primary Playground.

OBSERVATIONS:

- Here are some starter pictures of playgrounds to observe:



<https://designblocks.files.wordpress.com/2011/08/yxt7u.jpg>



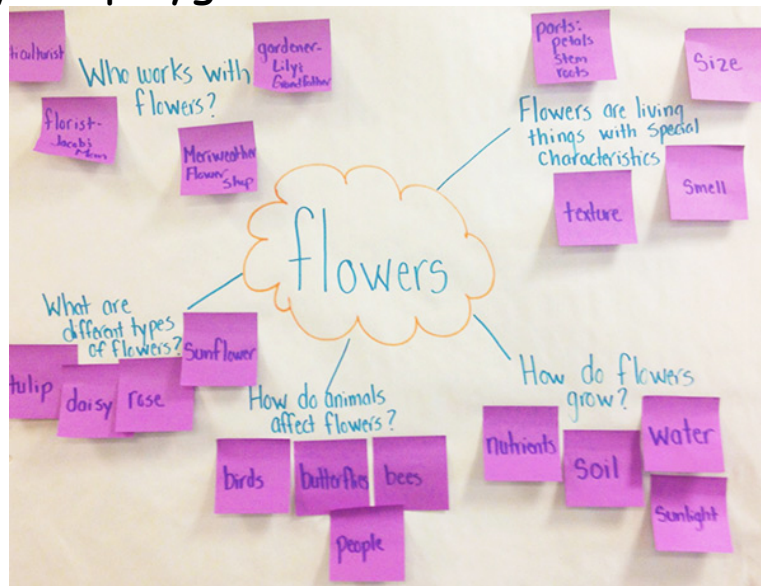
http://lh5.ggpht.com/_yiiPzeRfNBQ/TJAa7M7giul/AAAAAAAAAs8/mtYjxFd4_jM/s800/090716_dymaxion_1.jpg



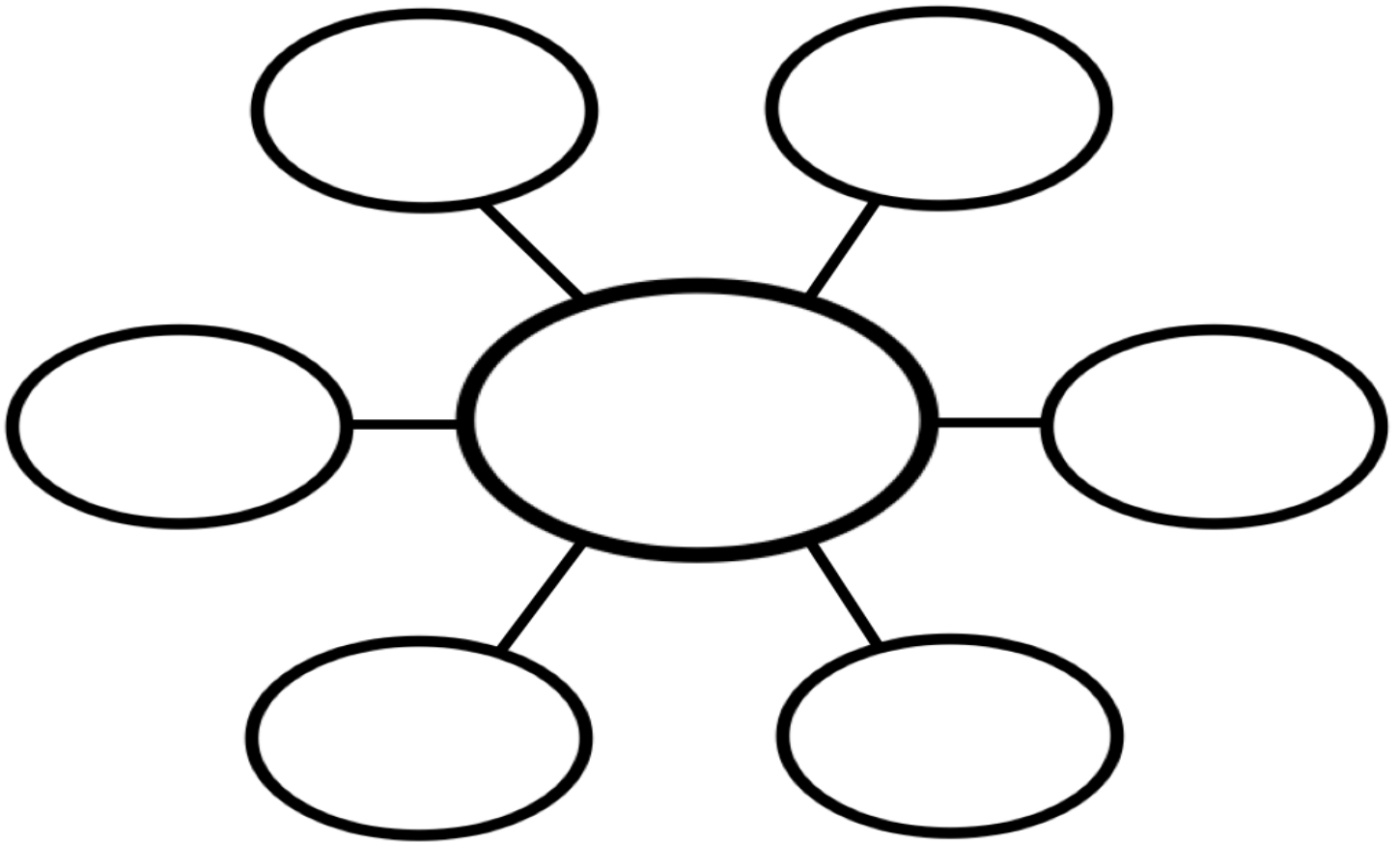
http://www.worldconnect-us.org/content/uploads/2014/10/IMG_6409-800x532.jpg

Web Making

- Make a web (like the flower web) with pictures of things you would like in your playground.



<https://s-media-cache-ak0.pinimg.com/originals/77/da/59/77da594a8610baae7b3f617c04b7d9a6.jpg>



http://hfascsjw.weebly.com/uploads/1/0/0/4/10045135/1701000_orig.png

Playground Field Trip Idea

- Take pictures of playgrounds in the area.
- Look at the pictures and add more ideas to your web.

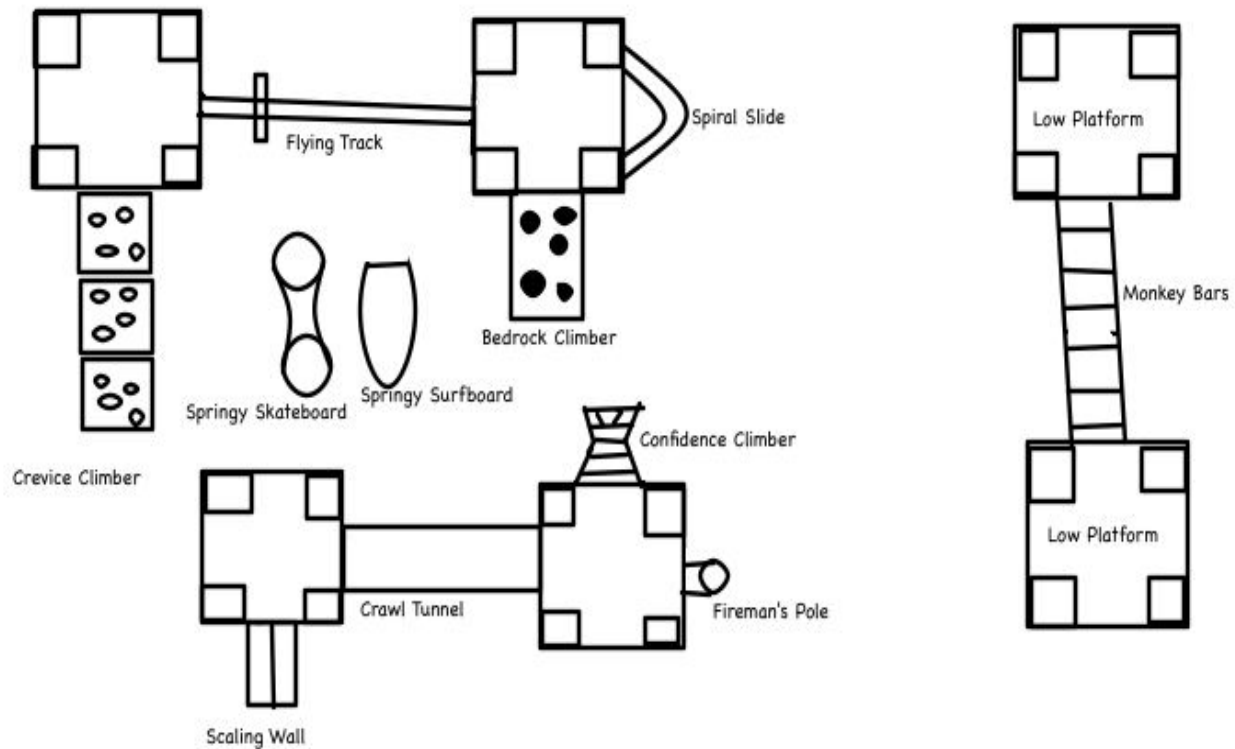
Think about the Environment.

A playground takes up space so it means that living things will have to find a new habitat if we clear out space for our playground.

- Draw pictures of living things that would lose their habitat if we built a playground on a farm?

Playground Specifications:

- Time to make a blueprint of your playground.
A blueprint is a map of where everything goes.

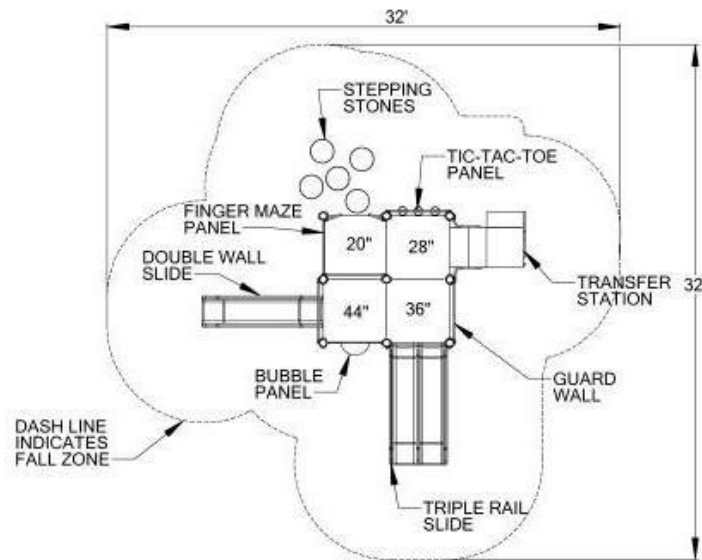


The Architects

Matt Darcy Connor Lachie

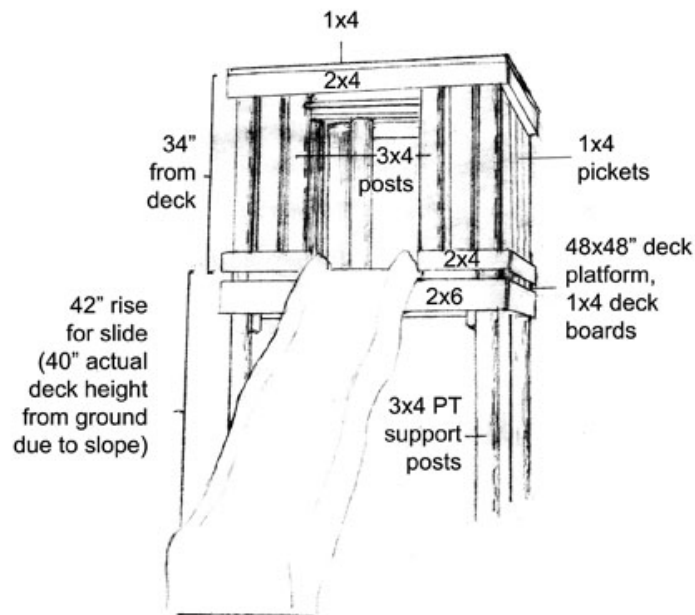
https://mountcollaboration.wikispaces.com/file/view/KidPix1_Playground.jpg/85064073/KidPix1_Playground.jpg

A blueprint can show the size of things:



<https://s-media-cache-ak0.pinimg.com/originals/62/0f/26/620f26af7849004613e25fcd91837d1.jpg>

Blueprints can show side views or birds eye views.
Here is a side view of a playground blueprint:



<http://extremehowto.com/wp-content/uploads/2007/02/PGroundSlide2.jpg>

- Draw a blueprint with a bird's eye view of our school.
- What about adding a chalkboard with a fence?



<https://s-media-cache-ak0.pinimg.com/736x/52/ae/7b/52ae7b0a26b5865da99713248740c6ae.jpg>

- What about adding a string of balls to practice counting?



<http://creativestarning.co.uk/developing-school-grounds-outdoor-spaces/inspiration-and-action-to-change-an-outdoor-space/>

- Now draw a bird's eye view blueprint of the playground you would like to build.



Step Outside:

Walk out the number of steps for each side of the playground you would like to build:

Side 1: _____ steps

Side 2: _____ steps

Side 3: _____ steps

Side 4: _____ steps

Measuring My Steps in cm.



<http://www.members.stepsafari.com/uploaded/ArticlesNew/ART-Step-length.jpg>

My step is _____ cm long.

I will need to know how big to make my fence in cm, so I need to add up the space on each side:

Side 1: _____ steps = _____ cm

Side 2: _____ steps = _____ cm

Side 3: _____ steps = _____ cm

Side 4: _____ steps = _____ cm

- Let's measure everyone's feet in cm.

Feet belong to:	cm's
My teacher	

My step size was:

- Larger than my classmates
 - Smaller than my classmates
 - Close to the same size as my classmates.
-
- A step is not the same size.
 - What measurement (your step or cm) would be best to use when making a playground?
-

My Safe Playground

You will need to lock up the playground when a teacher or parent is not there. Circle the lock you like best.



Extend It!

- Make a Locks and Keys Board to use during 'choice' activity time.

FINDINGS: I think I designed a:

_____ fun playground.

_____ green playground.

_____ playground that will not cost too much.

I am ready to build my model playground.

Yes, No, Almost 😊 (CIRCLE ONE)

Making a Model of Playground:

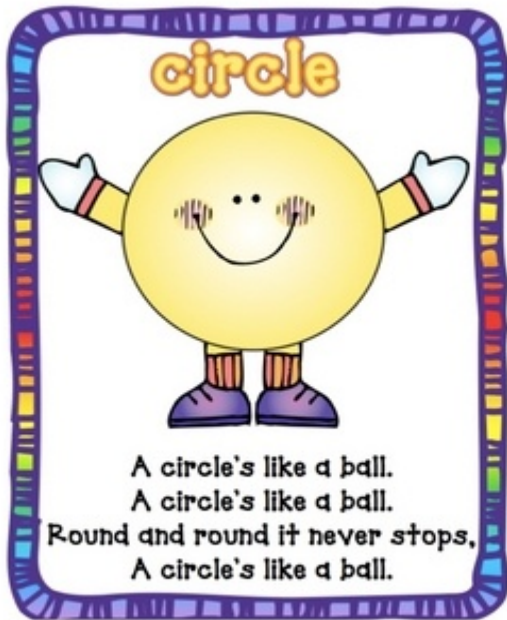
- Use 3D blocks, boxes, and duck-tape to make different shapes (triangles, squares, rectangles, circles, curves) to build your model playground.



to

18. Identify Circles & Oval Shapes (inside real images & objects)

Circle



<https://s-media-cache-ak0.pinimg.com/736x/3f/92/1b/3f921b84aa5f9bcc5964083067653c5a.jpg>

Oval



<https://s-media-cache-ak0.pinimg.com/736x/bb/d6/0b/bbd60ba1c05a7a7d49f48263365ad0d2.jpg>

<https://s->

- Look through magazines or newspapers to find logos with circle and oval shapes.
- Draw one logo with at least one shape below:

- Try making a circle by joining a curvy line.

- Draw a picture of 2 things you can use to trace a good circle:

--	--

Step Outside

Think about a space where we might build an oval walkway.



<https://s-media-cache-ak0.pinimg.com/originals/5f/35/01/5f35010ddc93fe968afe60ee8329015d.jpg>

19. Identify the Difference Between a Square & a Rectangle

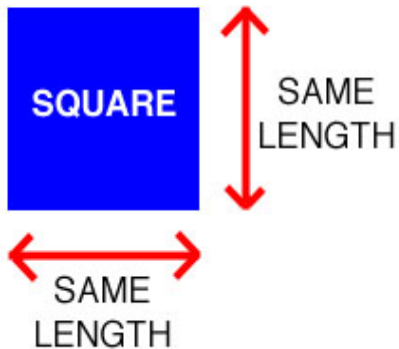
Tarp or Shower Curtain Math

- Ta Da! This tarp is full of square and rectangular holes. Count them.

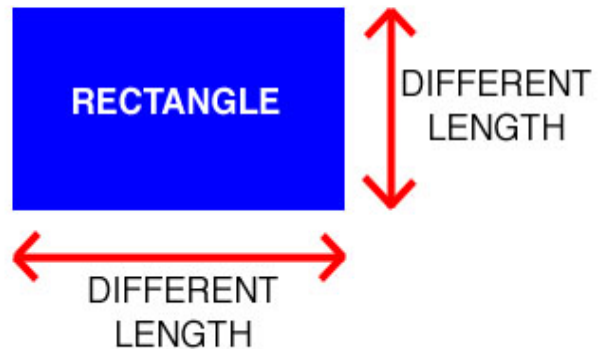


<http://creativestartlearning.co.uk/early-years-outdoors/give-your-old-tarp-a-mathematical-makeover/>

All four sides of a square are the same length.



A rectangle is like a stretched square.

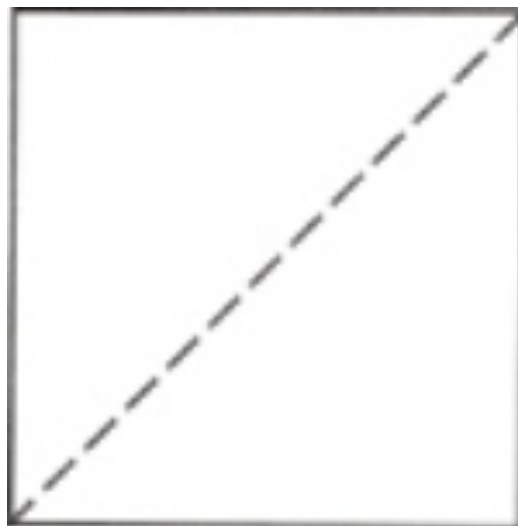


<https://lowry5.wikispaces.com/file/view/SquareAndRectangle.jpg/143014223/SquareAndRectangle.jpg>

- Look how the sun can make shapes shining through the holes.



When you put a diagonal line from one corner to the opposite you form 2 triangles in a square and rectangle.



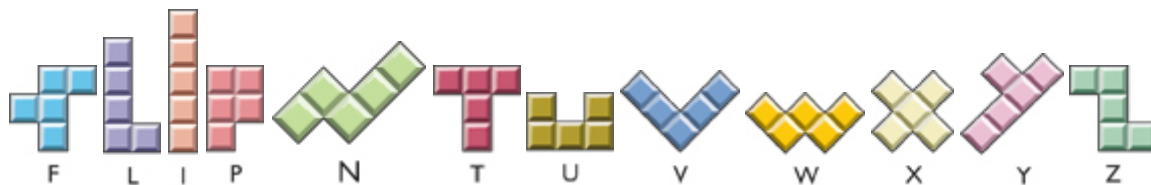
- Make your own diagonal art by using masking tape on paper to make squares, rectangles and triangles.
- Paint different parts of the page with one or two colours.
- After the paint dries, remove the tape to see the 2D shapes.
- Share your painting with the class and explain what shapes you made.
- Use the words "above" and "below" to explain where the shapes are located.



<http://creativestartlearning.co.uk/art-music-outdoors/masking-tape-shape-explorations/>

There are 12 pentomino shapes:

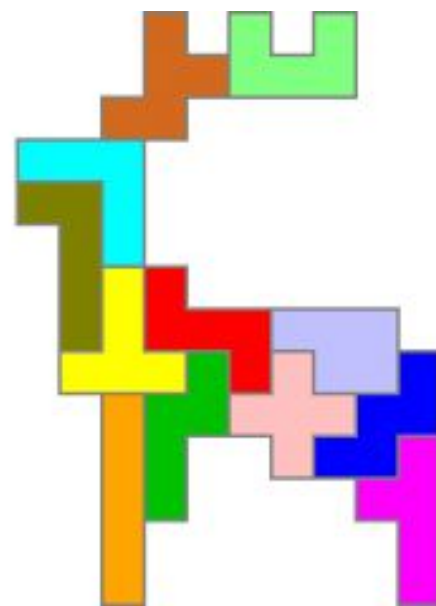
F, L, I, P, N, T, U, V, W, X, Y, and Z.



<https://illuminations.nctm.org/Lesson.aspx?id=4105>

- What shapes can you make with pentominos?

<https://s-media-cache->



ak0.pinimg.com/236x/50/50/d9/5050d922e4b1171e9fdb7c00fa58c8a0.jpg

Extend It:

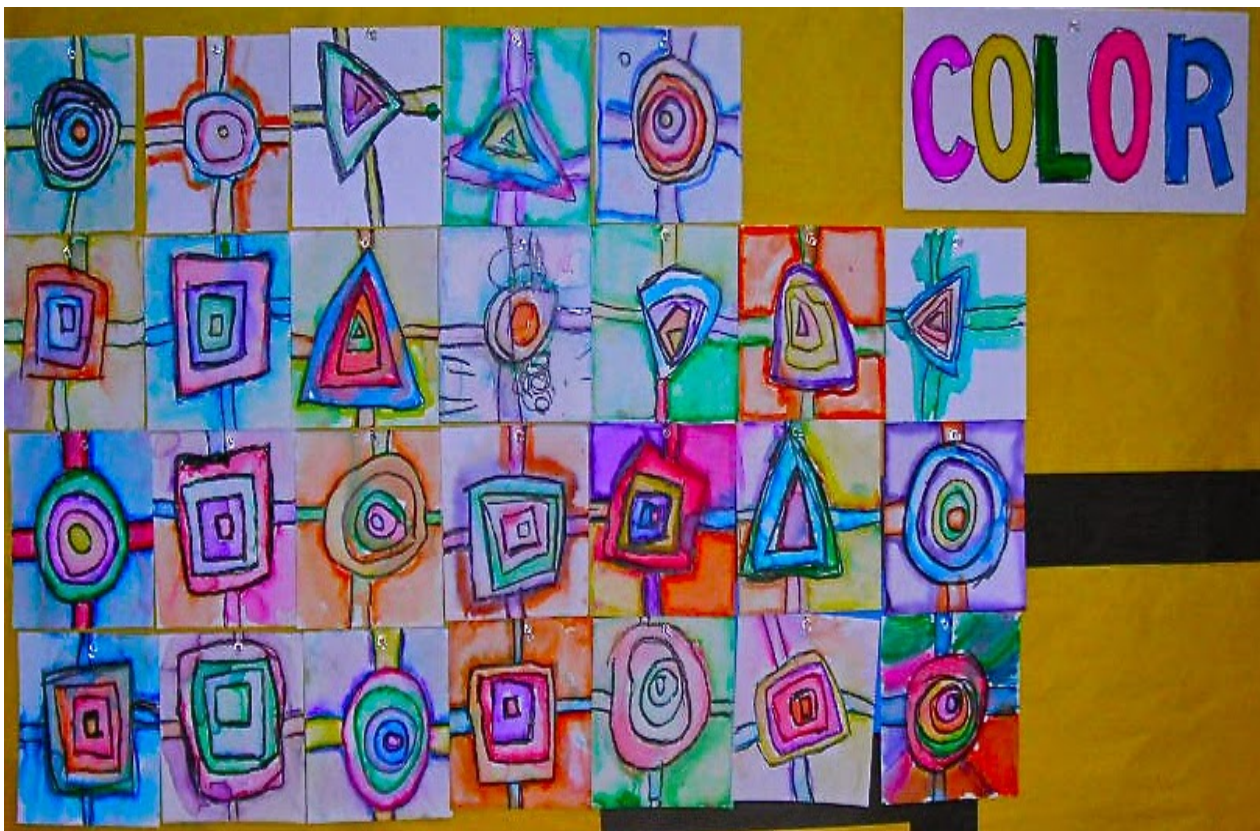
- Make different kinds of triangles
- Try making a triangle owl.



<http://ind5.ccio.co/T1/CC/V9/a6bf8936a80177ae142dce4d7c498f40.jpg?iw=300>

20. Show Where the Center of a Circle is

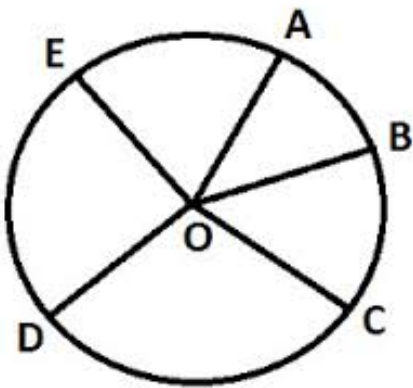
- Draw a figure pattern using circles, squares and triangles.
- Mark the center of the object and make smaller shapes inside the bigger shapes.
- Put these patterns together to make a mural or quilt.



<http://3.bp.blogspot.com/-GJuTjjDWluc/U27pEcgc-il/AAAAAAAAEKY/HO3MYTx1FZM/s1600/DSCN4021.JPG>

- Explain your pattern to the class. Use the words "in" and "out".

The **center** of a circle is the spot where all lines are equal when they are drawn to the edge - like the spoke of a wheel - all spokes are the same length.



[http://i.ebayimg.com/00/s/MzAwWDMwMA==/z/UL4AAOSw7NNT~tr/\\$_35.JPG?set_id=2](http://i.ebayimg.com/00/s/MzAwWDMwMA==/z/UL4AAOSw7NNT~tr/$_35.JPG?set_id=2)



Valentines Cards

You can make Valentine's Cards punching out points along the sides of the curved heart shape. These points are NOT the center.

**Valentine's Day
Fine Motor Practice**



Folding to Find the Center of a Circle

- Fold a circle in half to find a line through the middle.
- Then fold it in half a different way.
- Where the two folded lines meet - is the center of your circle.

<http://www.ucandostuff.com/Guide-1498->

[How%20to%20make%20pretty%20paper%20flowers%20from%20circles.aspx](http://www.ucandostuff.com/Guide-1498-How%20to%20make%20pretty%20paper%20flowers%20from%20circles.aspx)

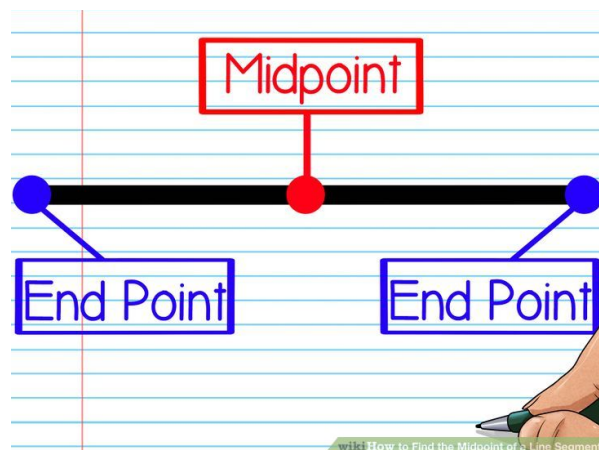


Step Outside:

- Look for circles outside and see if you can locate the center of the circle.

21. Identify the Halfway Point of a Line

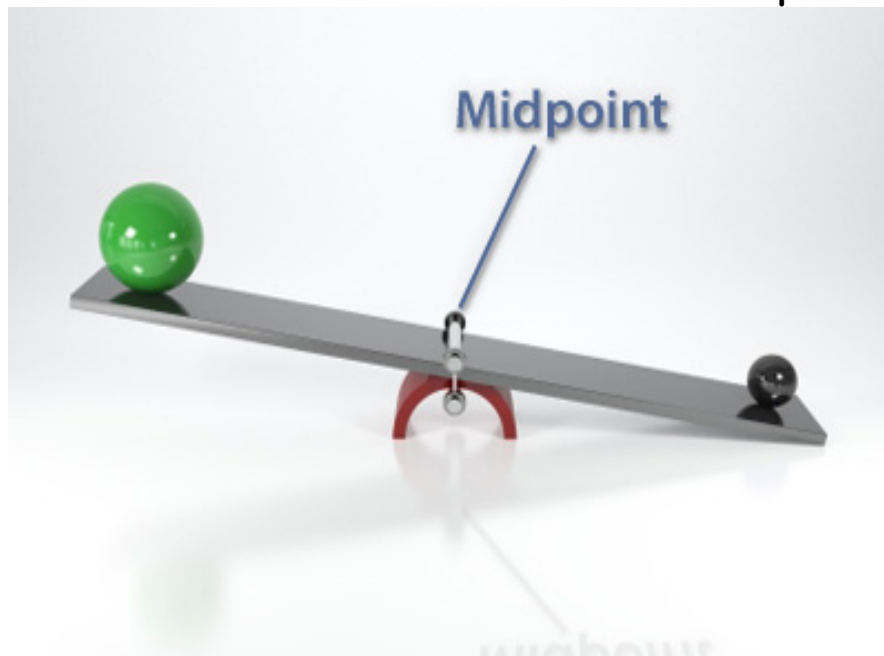
- Look at the line below and circle "Mid" inside the word "Midpoint".



<http://pad3.whstatic.com/images/thumb/6/60/Find-the-Midpoint-of-a-Line-Segment-Step-1-Version-3.jpg/aid1628172-728px-Find-the-Midpoint-of-a-Line-Segment-Step-1-Version-3.jpg>

Mid is also at the front of the word: "Middle".

The $\frac{1}{2}$ way point in the line is also the middle or midpoint!



https://secure.starssuite.com/files/geo2010/Geom_18L_MidPoint.jpg

Lines can be up and down.

- Put a mark on the midpoint or half way point on the ladders and other climbing things in this climbing playground.



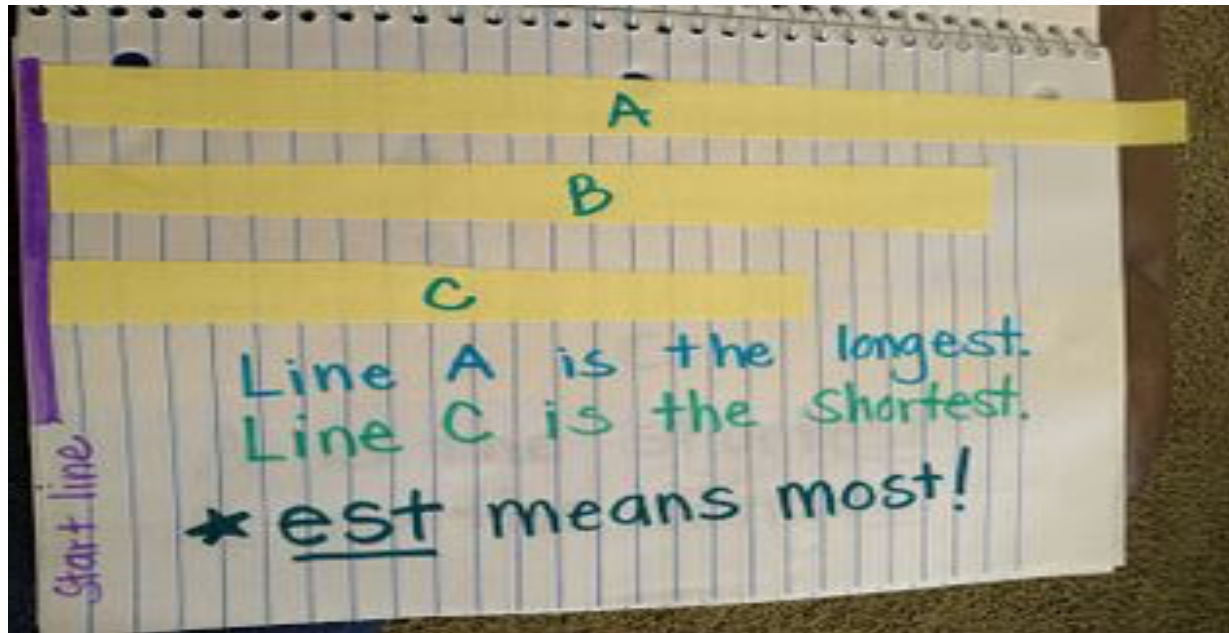
<http://cdn.newsapi.com.au/image/v1/89019448243375288a07e164adf6d8dc>

- Use some sticks to find the midpoint.



<http://creativestartlearning.co.uk/maths-outdoors/rainbow-maths-sticks/>

Some lines can be longer and shorter than others.



- Draw 2 lines with a ruler that have different lengths and print "longest" and "shortest" beside them.

Extend It:

- Measure lines of symmetry in 2D figures using centimeters (cm).

22. Identify & Sort 3D Objects (by size and color)

- Look at three different kinds of 3D objects.



- Sort through blocks to put them into three groups:
 - Blocks with square sides
 - Blocks with rectangular sides
 - Blocks with triangular sides

- Look at the playground map below and label the shapes of objects you can see:

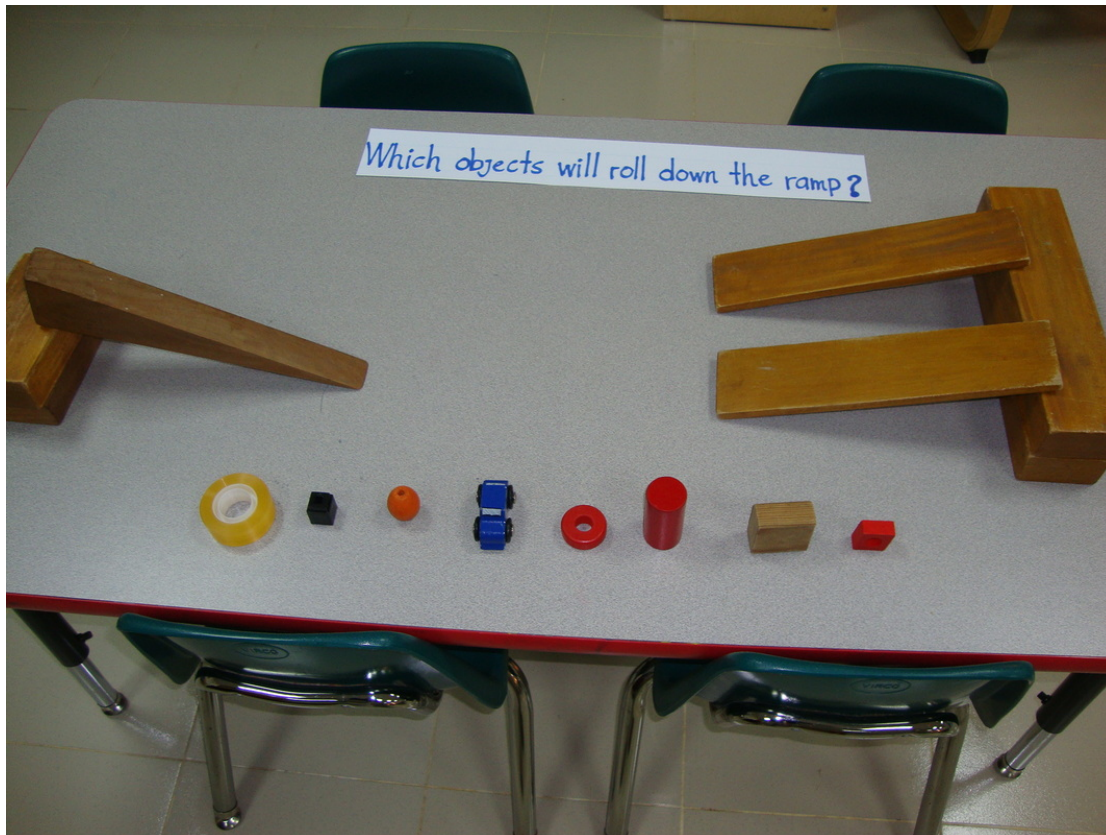


http://www.gameoz.com.au/images/watermarked/1/detailed/13/Playground_Fun_Chalkboard_Floor_jigsaw_Puzzle.jpg?t=1421472966

Step Outside:

- Look around outside to find different shapes inside 3D objects.

23. Use Objects to Measure Larger Objects



http://pk3d.weebly.com/uploads/1/3/2/4/13245426/3082008_orig.jpg

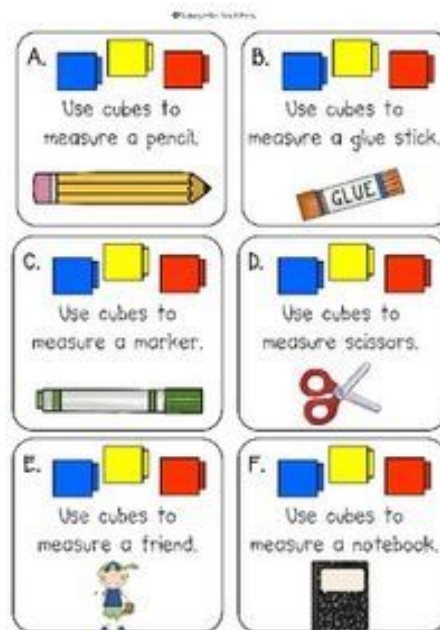
Why do you think some items will roll better?

- Build a ramp.
- Find 2 things that are round and things that have edges.
- Which items rolled better?

Cubes may not roll well but they help us measure things.

- Use cubes to measure:

- A. _____ cubes
- B. _____ cubes
- C. _____ cubes
- D. _____ cubes
- E. _____ cubes
- F. _____ cubes



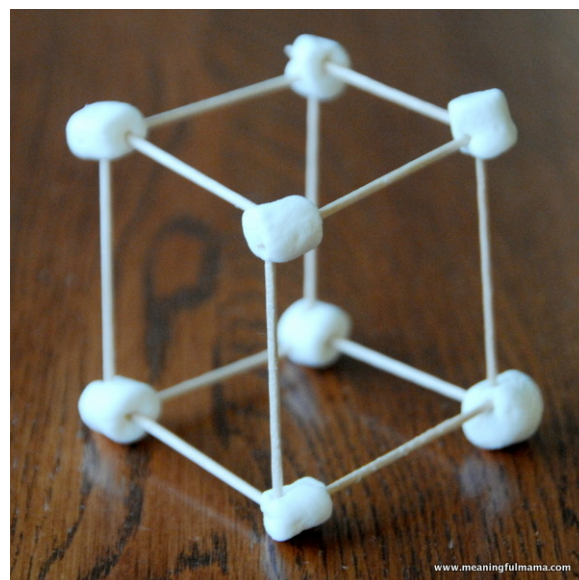
- Make this cube using marshmallows and spaghetti.

<http://meaningfulmama.com/wp-content/uploads/2012/11/1-marshmallow-and-toothpick-learning-015.jpg>

- Now make a bug using marshmallows and spaghetti.
- Share your bug with your classmates and talk about what shapes you used to make your bug.

Extend It:

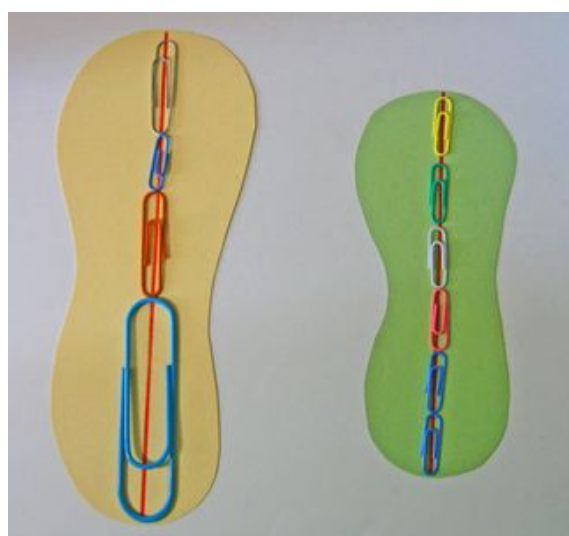
- Trace & identify sides and faces of 2D figures and 3D objects.



24. Use Non-standard Measures

- Find two leaves on the ground (different sizes) and see how many cubes will cover the bigger and smaller leaf.

https://i0.wp.com/www.kindergarten-lessons.com/wp-content/uploads/measure_big_leaf2.jpg



Stand on a sheet of paper and trace around your shoe. Then cut out your footprint. Using different size paper clips measure how long your foot is:

My foot is _____ small paper clips long.

My foot is _____ large paper clips long.

Step Outside

- Using large cardboard boxes, let's make a maze we can play in on a sunny day!



<https://s-media-cache-ak0.pinimg.com/originals/7c/30/31/7c3031062ae497efa64d17b4f989bbf0.jpg>

- Place objects end to end to measure the length of your maze,
- Draw the object you used to measure the length of your maze.

- My maze was _____'s long.

25. Identify Longer & Shorter Distances

- Find 5 things and put them in order from shortest to longest.



<http://crisscrossapplesauce.typepad.com/.a/6a00e55111563088340167676da256970b-600wi>

- Do you think you would take more steps walking around the building or walking along the driveway?
I predict there are more steps.... (circle one)

Around the school

Along the driveway

- Count how many paces there are around the school's building.
- Now count and check.

It took _____ steps to walk around the school.

It took _____ steps to walk along the driveway.

- Use the words near and far to talk about the steps you took.

Collect stones for each step around the school building and along the driveway. Put them in 2 jars (one labelled "school" and the other labelled "driveway").



https://soschicagoland.files.wordpress.com/2011/07/rocks_jar_p.jpg

26. Use Objects to Graph More & Less

- What colour of apple do you like best?



http://kindergartenchaos.com/wp-content/uploads/2016/07/Apple-Class-Graph-Anchor-Chart-kindergartenchaos.com_-954x1024.jpg

STEP OUTSIDE

- Collect 20 objects outside.
- Put them into three groups.
- Count up how many are in each group.

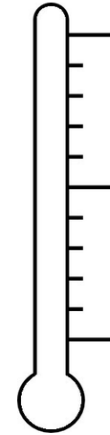
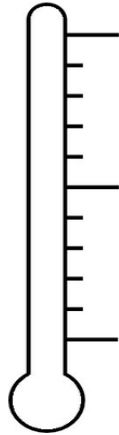
- Make a graph using pictures to show what found.
-

- Share with your classmates what you found using your graph.
- What is the probability that you will find a stick outside?

High Probability or Low Probability

- Colour in two thermometers - one for hot and one for cold. Put the words (MORE, LESS, HOT, COLD) that go with the picture under it. Trace the word "thermometer" twice.

http://s.twistynoodle.com/img/r/thermometer/thermometer/thermometer_worksheet.png?ctok=20110417214148



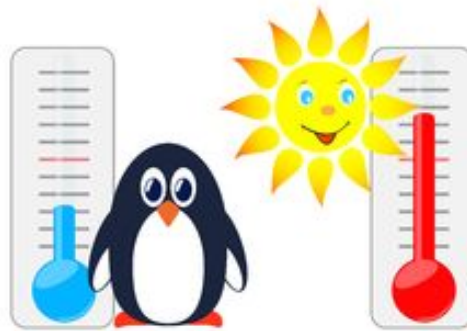
thermometer

twistynoodle.com

thermometer

twistynoodle.com

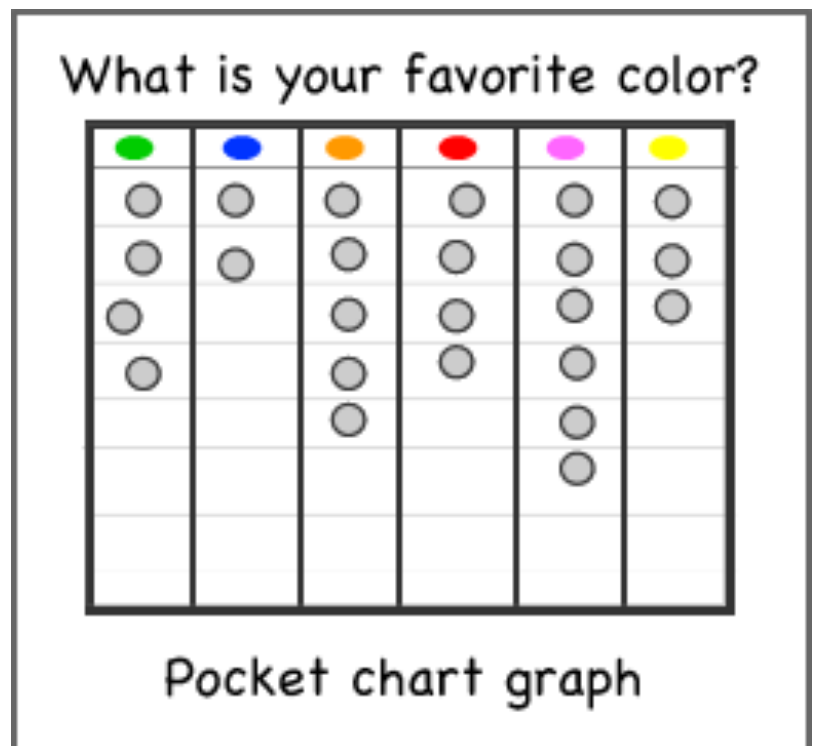
- What other pictures help you think of hot and cold?
- Draw one on each side of this picture.



<https://thumbs.dreamstime.com/t/sun-penguin-thermometers-vector-illustration-47158861.jpg>

STEP OUTSIDE:

- Paint or colour six stones.
- Make a tally chart like this one with coloured stones and sticks for the chart.



https://i1.wp.com/www.kindergarten-lessons.com/wp-content/uploads/graph_pocket_chart.png?resize=260%2C242

- Survey your classmates to find out the most popular colour and post it.

27. Use Tallies & Objects to Show More & Less

Bean Counting Experiment:

- Predict which glass jar has more beans in it.
(teacher will have two jars of beans prepared for each pair)



<https://carolynpsychology.files.wordpress.com/2015/09/e1f6a-mungbeansjar.jpg?w=266&h=398>

We predict Jar _____ will have more beans than Jar _____.

- Now count the beans in each jar by using a tally chart:

1		6	
2		7	
3		8	
4		9	
5		10	

http://www.mathatube.com/images/tallytable2_1_.gif

- Make your tallies in this chart:

Jar A	Jar B

Jar A contained _____ beans.

Jar B contained _____ beans.

- Put the beans all together in a tube and shake it three times.
- Then spill the beans and put them in two piles to show what $\frac{1}{2}$ of the beans look like!

Extend It:

- Organize, represent & interpret data up to three categories.

28. Wonder Workshop (Year 2)



http://www.dovers-green.surrey.sch.uk/_files/images/parents%20info/BC385418AC7655C9689197911A005BD4.JPG

- What will I see outside?

Predict: I think I will see: _____

Step Outside:

- Use a hula hoop to place down in the field.
 - Use a magnifying glass to see if you can find both living and non-living things.
 - Draw and label them on two paper plates - one labelled, "Living" and the other labelled, "Non-Living"
 - Look at your drawings and write 2 questions about what you wonder about?
-
-

- Talk about ways we can care for and respect the environment.

- What problem do you think a bird has to solve to live?

Problem: I think birds _____

- Let's create 2 different bird feeders so we can learn more about birds.
- You can make your own feeder or use some of these ideas:



<http://www.funnycrafts.us/wp-content/uploads/2016/05/milk-carton-and-juice-carton-bird-feeder-2-234x300.jpg>



<http://cdn.diys.com/wp-content/uploads/2016/10/egg-carton-birdfeeder-diy.jpg>



http://cdn.skim.gs/image/upload/v1456337975/msi/build-a-diy-bird-feeder-final2_hhrfra.jpg



<http://www.diyhomethings.com/wp-content/uploads/2015/09/Teapot-Bird-Feeder.jpg>



<http://www.allbirdcage.com/wp-content/uploads/2015/12/inexpensive-bird-feeders-490x490.jpg>



<https://s-media-cache-ak0.pinimg.com/originals/90/dd/d7/90ddd74ad28ce09ad9e87521fa641295.jpg>



TOILET PAPER ROLL BIRD FEEDER

<https://s-media-cache-ak0.pinimg.com/236x/02/df/ca/02dfcae3d14e2ef13d67f63cf13a0e4b.jpg>



<http://www.grainsofearth.org/wp-content/uploads/2012/05/63.jpg>

- Be sure to use scissors and cutting materials safely - with your teacher. Your teacher will help you place your feeder outside.
- Put some seeds in and let's see if birds want to visit your feeder.

Observations:

- Check each day at the same time to see if a bird is visiting your feeder.
- Keep a tally of the number of birds you see each day.



<http://www.fantasticfunandlearning.com/wp-content/uploads/2015/04/Outdoor-Activity-Bird-Watch-with-Free-Printable.jpg>

Days of Week	Bird Sightings	Weather
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		

Findings:

- Share your findings with your classmates.
- Did the birds come in certain weather?
- Why do you think birds come or did not come to the feeders?

29. Making Things Go

Challenge: Make something that moves.

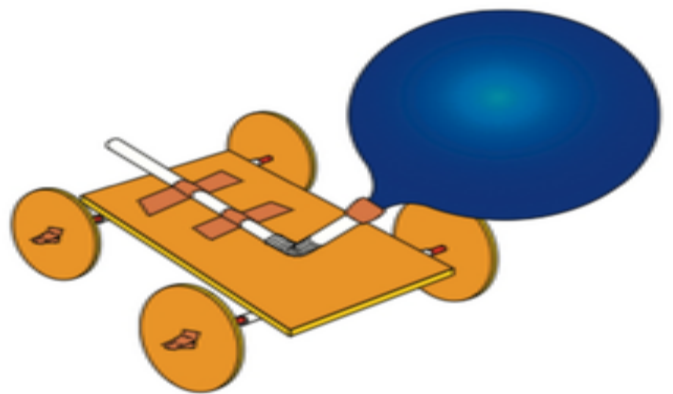
- Create an experiment with a prediction, list of materials, observations and findings about something you make that moves.



<https://s-media-cache-ak0.pinimg.com/736x/daf5/6f/daf56fdea5677e54863189a818157b8c.jpg>



https://farm2.staticflickr.com/1574/23685273544_e061c948e3_z.jpg



<http://pad2.whstatic.com/images/thumb/5/56/User-Completed-Image-Make-a-Balloon-Car-2016.04.27-13.54.30.0.png/crop-225-225-126px-User-Completed-Image-Make-a-Balloon-Car-2016.04.27-13.54.30.0.png>



My Learning Log:

- ___ used a ruler to underline steps
- ___ did rough work in spaces you can easily find
- ___ work was neat and easy to read
- ___ followed pattern recommended
- ___ had three thoughtful journal entries

Classroom Work:

- ___ worked well on task with other students during
paired or group activity
- ___ worked well on own
- ___ helped others when needed
- ___ used books and materials with care
- ___ tried some extension activities



Appendix A: Ontario Ministry of Education and Training Math Expectations

NS1.1 investigate (using a number line, a hundreds carpet, a board game with numbered squares) the idea that quantity is greater when counting forward and less when counting backwards

NS1.2 investigate some concepts of quantity through identifying and comparing sets with more, fewer, or the same number of objects (e.g., find out which of two cups contains more or fewer beans, using counters; investigate the ideas of more, less, or the same, using five and ten frames; recognize that the last number counted represents the number of objects in the set [concept of cardinality])

NS1.3 begin to make use of one-to-one correspondence in counting objects and matching groups of objects (e.g., one napkin for each of the people at the table)

NS1.4 demonstrate understanding of the counting concepts of stable order (i.e., the concept that the counting sequence is always the same - 1 is followed by 2, 2 by 3, and so on) and of order irrelevance (i.e., the concept that the number of objects in a set will be the same regardless of which object is used to begin the counting)

NS1.7 demonstrate an understanding of number relationships for numbers from 0 to 10, through investigation (e.g., show small quantities using fingers or manipulatives)

NS1.8 use ordinal numbers in a variety of everyday contexts (e.g., line up toys and manipulatives, and identify the first, second, and so on; after reading a book, respond to the EL-K team's questions about who was the first or third person to come in the door)

NS1.9 use, read, and represent whole numbers to 10 in a variety of meaningful contexts (e.g., use a hundreds chart to read whole numbers; use magnetic and sandpaper numerals to represent the number of objects in a set; put the house number on a house built at the block centre; find and recognize numbers in the environment; write numerals on imaginary Attbills at the restaurant at the dramatic play centre)

NS1.10 explore different Canadian coins, using coin manipulatives (e.g., role-play the purchasing of items at the store at the dramatic play centre; determine which coins will purchase more - a loonie or a quarter)

NS1.11 investigate and develop strategies for composing and decomposing quantities to 10 (e.g., use manipulatives or "shake and spill" activities)

NS1.12 investigate addition and subtraction in everyday activities through the use of manipulatives (e.g., interlocking cubes), visual models (e.g., a number line, tally marks, a hundreds carpet), or oral exploration (e.g., dramatizing of songs)

M2.1 compare and order two or more objects according to an appropriate measure (e.g., length, mass, area, temperature, capacity) and use measurement terms (e.g., hot/cold for temperature, small/medium/large for capacity, longer/shorter or thicker/thinner for length)

M2.2 demonstrate, through investigation, an awareness of non-standard measuring devices (e.g., feet, hand spans, string, or cubes to measure length; hand claps to measure time; scoops of water or sand to measure capacity) and standard measuring devices (e.g., measuring cups at the water and sand centre, balance scales at the block centre) and strategies for using them (e.g., place common objects end to end to measure the length of the classroom; use cubes to plan the length of a road at the sand table or the block centre; use footsteps to measure the distance between the door and the sink)

M2.3 demonstrate, through investigation, a beginning understanding of non-standard units that are the same type (e.g., straws, paperclips) but not always the same size

G3.1 explore, sort, and compare traditional and non-traditional two-dimensional shapes and three-dimensional figures (e.g., compare equilateral triangles with triangles that are not equilateral; sort different sizes of boxes, attribute blocks, pattern blocks, a variety of triangles, shapes with three curved sides, objects that create an open shape with three lines)

G3.3 compose pictures, and build designs, shapes, and patterns, using two-dimensional shapes, and decompose two-dimensional shapes into smaller shapes, using various tools or strategies (e.g., sand at the sand table, stickers, geoboards, pattern blocks, a computer program)

G3.4 build three-dimensional structures using a variety of materials and begin to recognize the three-dimensional figures their structure contains

G3.5 investigate the relationship between two-dimensional shapes and three-dimensional figures in objects that they have made

G3.6 demonstrate an understanding of basic spatial relationships and movements (e.g., use above/below, near/far, in/out; use these words while retelling a story)

P4.1 identify, create, reproduce, and extend repeating patterns through investigation, using a variety of materials (e.g., attribute blocks, pattern blocks, a hundreds chart, toys, bottle tops, buttons, toothpicks) and actions (e.g., physical actions such as clapping, jumping, tapping)

P4.2 identify and describe informally the repeating nature of patterns in everyday contexts (e.g., patterns in nature, clothing, floor tiles, literature, schedules), using oral expressions (e.g., "goes before", "goes after", "morning, noon, night", "the four seasons") and gestures (e.g., pointing, nodding)

DM5.1 sort, classify, and compare objects and describe the attributes used

DM5.2 collect objects and data and make representations of their observations, using concrete graphs

DM5.3 respond to and pose questions about data collection and graphs

DM5.4 use mathematical language in informal discussions to describe probability

Appendix B: Ontario Ministry of Education and Training Science Expectations

Ontario Kindergarten Science Expectations

KRD1.1 ask questions about and describe some natural occurrences, using their own observations and representations (*e.g., drawings, writing*)

KRD1.2 sort and classify groups of living and non-living things in their own way (*e.g., using sorting tools such as hula hoops, sorting circles, paper plates, T-charts, Venn diagrams*)

KRD1.2 make predictions and observations before and during investigations

KRD.1.3 explore patterns in the natural and built environment (*e.g., patterns in the design of buildings,*

KRD2.1 state problems and pose questions before and during investigations

KRD2.3 select and use materials to carry out their own explorations

KRD2.4 communicate results and findings from individual and group investigations ...

*"I like walking to school." "You can re-use this paper." **Doing***

Children use recycled milk cartons and found materials to make bird feeders to hang from the trees in the schoolyard. One of the children asks for help from the EL-K team to make a list of seeds that they can use to fill the feeders. Children working at the creative centre put scraps of leftover materials that can be used in other projects in the appropriate bins on the shelf.

KRD2.4 communicate results and findings from individual and group investigations (*e.g., explain and/or show how they made their structure; state simple conclusions from an experiment; record ideas using pictures, numbers, labels*)
turning off unnecessary lights at home; walking to school instead of getting a ride)

KRD4.1 identify practices that ensure their personal safety and the safety of others, and demonstrate an understanding of the importance of these practices

KRD4.2 state problems and pose questions as part of the design process

KRD4.3 make predictions and observations throughout the design process

KRD4.4 select and use tools, equipment, and materials to construct things using the design process

KRD4.5 communicate and record results and findings after constructing things either individually or in groups (*e.g., explain and/or show how they made their structure; record ideas using pictures, words, numbers on labels or in charts*)

KRD.1.1 ask questions about and describe some natural occurrences, using their own observations and representations ...

Appendix C: Alberta and Common Core State Mathematics Standards (US)

Essential Understandings to Master	Alberta Education Standards	Common Core State Standards
Order & compare numbers between 1 & 10	AKA1.1; AKA1.2; AKA1.3; AKA1.4; AKA1.5	<u>K.CC.A.3</u> ;
Order & compare numbers between 0-21		<u>K.CC.A.2</u> ; <u>K.CC.A.3</u> ; <u>K.CC.B.4</u> ; <u>K.CC.B.5</u>
Count backwards from 21		<u>K.CC.A.3</u> ; <u>K.CC.B.5</u>
Record numbers 1 through 99		<u>K.CC.A.1</u> ; <u>K.CC.A.2</u> ; <u>K.NBT.A.1</u>
Use objects to add & subtract within 5		<u>K.OA.A.1</u> ; <u>K.OA.A.2</u> ; <u>K.OA.A.3</u> ; <u>K.OA.A.4</u> ; <u>K.OA.A.5</u>
Add & subtract within 10		<u>K.OA.A.1</u> ; <u>K.OA.A.2</u> ; <u>K.OA.A.3</u> ; <u>K.OA.A.4</u> ; <u>K.OA.A.5</u>
Sort Objects & identify & A/ B pattern	AKB.1.1	
Identify & construct A/ B/ C	AKB.1.1	
Identify parts of wholes (flowers, animals, people)	AKC.1.1	
Identify half of whole using images & objects		
Identify the need for money		
Solve problems by using coins		<u>K.MD.A.2</u>
Identify time to the hour digitally		
Identify time half hour		
Identify circles & ovals inside images & objects	AKB.1.2	<u>K.G.A.1</u> ; <u>K.G.A.2</u> ; <u>K.G.A.3</u> ; <u>K.G.A.4</u>
Identify difference between square & rectangle	AKB.1.2; AKC.1.1	<u>K.G.A.1</u> ; <u>K.G.A.2</u> ; <u>K.G.A.3</u> ; <u>K.G.A.4</u>
Show where the center of a circle is		
Identify the halfway point of a line		
Identify & sort 3D objects by size & color	AKB.1.2; AKC.1.1; AKC1.2	<u>K.MD.A.1</u> ; <u>K.G.A.1</u> ; <u>K.G.A.2</u> ; <u>K.G.A.3</u> ; <u>K.G.A.4</u>
Use objects to measure larger objects	AKC1.2; AKC1.3	<u>K.MD.A.1</u> ; <u>K.MD.A.2</u> ; <u>K.G.A.1</u> ; <u>K.G.A.2</u> ; <u>K.G.A.3</u> ; <u>K.G.A.4</u> ; <u>K.G.B.5</u> ; <u>K.G.B.6</u>
Use non-standard measures		<u>K.CC.C.6</u> ; <u>K.MD.A.2</u>
Identify longer & shorter distances	AKC.1.1;	
Use objects to graph more & less		<u>K.CC.C.6</u> ; <u>K.MD.A.2</u>
Use tallies & objects to show more & less	AKC.1.1	<u>K.CC.C.6</u> ; <u>K.MD.A.3</u>

Appendix D: Alberta Education Mathematics Expectations

AKA1.1 Say the number sequence 1 to 10 by 1s, starting anywhere from 1 to 10 and from 10 to 1.

AKA1.2 Subitize (recognize at a glance) and name familiar arrangements of 1 to 5 objects or dots.

AKA1.3 Relate a numeral, 1 to 10, to its respective quantity.

AKA1.4 Represent and describe numbers 2 to 10, concretely and pictorially.

AKA1.5 Compare quantities 1 to 10, using one-to-one correspondence.

AKB.1.1 Demonstrate an understanding of repeating patterns (two or three elements) by:

- identifying
- reproducing
- extending
- creating

patterns using manipulatives, sounds and actions.

AKB.1.2 Sort a set of objects based on a single attribute, and explain the sorting rule.

AKC.1.1 Use direct comparison to compare two objects based on a single attribute, such as length (height), mass (weight) and volume (capacity).

AKC1.2 Sort 3-D objects, using a single attribute.

AKC1.3 Build and describe 3-D objects.

Appendix E: Mathematics Common Core State Standards (US)

[K.CC.A.1](#)

Count to 100 by ones and by tens.

[K.CC.A.2](#)

Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

[K.CC.A.3](#)

Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).

[K.CC.B.4](#)

Understand the relationship between numbers and quantities; connect counting to cardinality.

[K.CC.B.5](#)

Count to answer “how many?” questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects.

[K.CC.C.6](#)

Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.

[K.OA.A.1](#)

Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

[K.OA.A.2](#)

Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

[K.OA.A.3](#)

Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).

[K.OA.A.4](#)

For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

[K.OA.A.5](#)

Fluently add and subtract within 5.

[K.NBT.A.1](#)

Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., $18 = 10 + 8$); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

[K.MD.A.1](#)

Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

[K.MD.A.2](#)

Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference.

[K.MD.B.3](#)

Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

[K.G.A.1](#)

Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

[K.G.A.2](#)

Correctly name shapes regardless of their orientations or overall size.

[K.G.A.3](#)

Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).

[K.G.B.4](#)

Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).

[K.G.B.5](#)

Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.

[K.G.B.6](#)

Compose simple shapes to form larger shapes.