

MATH 'N' MOVEMENT



Move the desks to the side of the room it's time for math!

This edition of Math 'N' Movement is designed specifically for North American Schools and combines the Common Core State Standards for Mathematics with the Physical Education Standards. With programs available from Kindergarten to Year 6 it provides a fun way to effectively engage students in math learning.

Math 'N' Movement increases both on task student behaviour and fitness by combining Math with the key Physical Education topics of movement, co-operation, game play, safety and acceptance of consequences for one's actions.

Designed to get more students, more active, more often, Math 'N' Movement is a dual strand teaching strategy that leap-frogs time constraints by teaching twice as much in half the time. Best of all, your students won't realise they are working hard because they are having so much fun!

For further information on the best way to use this program and additional teaching resources visit www.mathnmovement.com.

Distributed International by:

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MATH 'N' MOVEMENT

LEVEL

3

Grade 2

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MATH 'N' MOVEMENT

LEVEL

3

2.OA.1

OPERATIONS & ALGEBRA 1

In this Math 'N' Movement activity students will use addition and subtraction within 100 to solve problems involving guess and check and calculating.

ACTIVITY

1. In teams of 3, students sit with their Operations & Algebra 1 Animal Cards 5 metres from their hula hoop.
2. When given the number of heads and legs students work as a group to calculate how many chickens and how many sheep are in the pen.
3. One team member races, using the given movement, to transport the correct collection of animals to their team's hula hoop to be checked.
4. If correct students return to their team and await a new set of heads and legs to calculate but if incorrect they recalculate to find the correct number of Operations and Algebra 1 Animals and return these to their hoop.



Equipment Required:

- A set of Operations & Algebra 1 Animals per team.
- A hula hoop per team.



Notes:

Once students become proficient at selecting the correct animals the animals could each be worth a certain monetary amount ie. sheep are worth \$5 and chickens \$2 and students calculate the farmer's stock value when they deliver their animals to their hula hoop.



Mathematical Practices Covered:

- 2.1 - Makes sense of problems and perseveres in solving them.
- 2.2 - Reasons abstractly and quantitatively.
- 2.4 - Models with mathematics.
- 2.5 - Uses appropriate tools strategically.
- 2.6 - Attends to precision.
- 2.7 - Looks for and makes use of structures.



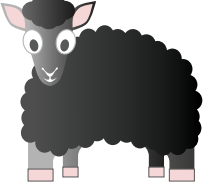
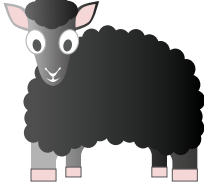


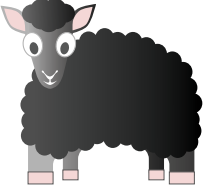
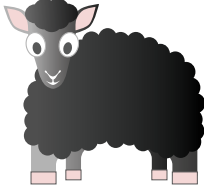


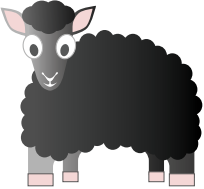
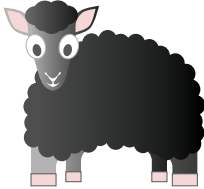


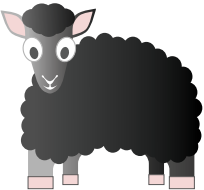
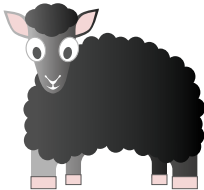


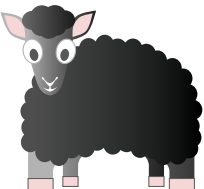
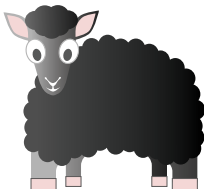


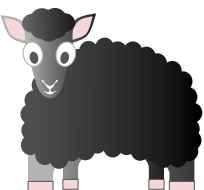
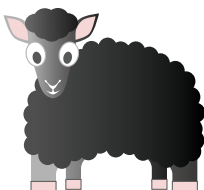


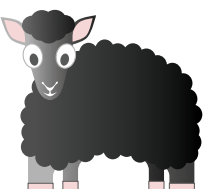
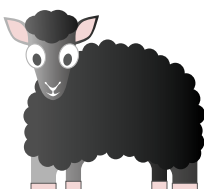


Physical Education Standards Covered:

- PE 1.1 - Moves to open spaces while traveling at increasing rates of speed.
- PE 3.1 - Participates in enjoyable and challenging physical activities.
- PE 5.1 - Participates in a variety of group settings without interfering with others.
- PE 5.2 - Accepts responsibility for one's own behavior in a group activity.
- PE 5.5 - Demonstrates respect for self, others, and equipment during physical activities.
- PE 5.6 - Demonstrates how to solve a problem with another person during physical activity.
- PE 5.7 - Participates positively in physical activities that rely on cooperation.



MATH 'N' MOVEMENT

OPERATIONS & ALGEBRA 1 ANIMAL CARDS

Sheep		Chickens	
			
			
			
			
			
			
			

OA.1

OA.2

OA.3

OA.4

NBT.1

NBT.2

NBT.3

NBT.4

NBT.5

NBT.6

NBT.7

MD.1

MD.3

MD.6

MD.7

MD.8

MD.9

G.1

G.2

G.3



MATH 'N' MOVEMENT

LEVEL

3

2.OA.2

OPERATIONS & ALGEBRA 2

In this Math 'N' Movement activity students will fluently add within 30 using mental strategies.

ACTIVITY

1. In teams of 4, students sit 5 metres from their pile of Operations and Algebra 2 Numbers from 1 to 9.
2. Each student races, using the given movement, one after another, to the pile of numbers and retrieves one card.
3. The first student records their number in the 1st box on their team's Operations and Algebra 2 Recording Sheet, the 2nd student in the 2nd box and so on until all 4 numbers are recorded.
4. As a team, students add up the 4 numbers and place the answer in the required box.
5. All cards are returned to the pile, students change positions and the activity is repeated so each student has a chance to be 1st, 2nd, 3rd and 4th.



Equipment Required:

- A set of Operations & Algebra 2 Numbers from 1 to 9 per team.
- An Operations & Algebra 2 Recording Sheet and pencil per team.



Notes:

Although it has been suggested that groups contain 4 students they could be larger and more numbers added together each time in that particular group. The Operations & Algebra 2 Recording Sheet contains enough space to complete this activity twice so each student has 2 chances to be 1st, 2nd, 3rd and 4th.



Mathematical Practices Covered:

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- 2.5 - Uses appropriate tools strategically.
- 2.6 - Attends to precision.



Physical Education Standards Covered:

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- PE 5.5 - Demonstrates respect for self, others, and equipment during physical activities.
- PE 5.6 - Demonstrates how to solve a problem with another person during physical activity.
- PE 5.7 - Participates positively in physical activities that rely on cooperation.



MATH 'N' MOVEMENT



OPERATIONS & ALGEBRA 2 RECORDING SHEET

Round	1 st Number	2 nd Number	3 rd Number	4 th Number	Total of all 4 numbers
1					
2					
3					
4					

Round	1 st Number	2 nd Number	3 rd Number	4 th Number	Total of all 4 numbers
1					
2					
3					
4					

- OA.1
- OA.2
- OA.3
- OA.4
- NBT.1
- NBT.2
- NBT.3
- NBT.4
- NBT.5
- NBT.6
- NBT.7
- MD.1
- MD.3
- MD.6
- MD.7
- MD.8
- MD.9
- G.1
- G.2
- G.3



MATH 'N' MOVEMENT



OPERATIONS & ALGEBRA 2 NUMBERS

1	6
2	7
3	8
4	9
5	

OA.1

OA.2

OA.3

OA.4

NBT.1

NBT.2

NBT.3

NBT.4

NBT.5

NBT.6

NBT.7

MD.1

MD.3

MD.6

MD.7

MD.8

MD.9

G.1

G.2

G.3



MATH 'N' MOVEMENT

LEVEL

3

2.OA.3

OPERATIONS & ALGEBRA 3

In this Math 'N' Movement activity students will determine whether a group of objects has an odd or even number of members.

ACTIVITY

1. The words 'Odd' and 'Even' are placed on the ground in 2 hula hoops at least 7 metres apart.
2. Students stand as a class facing the words.
3. Students are given either single numbers (up to 3 digits) or multiplication tables such as 2×5 to solve and must race to the 'Odd' or 'Even' sign.
4. For each round students are told a new number and a new movement to be used such as hop, leap or sprint run.



Equipment Required:

- The Operations & Algebra 3 Words 'Odd' and 'Even'.
- A large area in which to play.
- 2 hula hoops in which to place the Words 'Odd' and 'Even'.



Notes:

As so many students are running to the same place at the same time this activity has the potential to lead to accidents. It is important for students to know that being in the vicinity of the correct word is sufficient and they do not need to be standing on top of it.



Mathematical Practices Covered:

- 2.4 - Models with mathematics.
- 2.5 - Uses appropriate tools strategically.
- 2.6 - Attends to precision.
- 2.7 - Looks for and makes use of structures.
- 2.8 - Looks for and expresses regularity in repeated reasoning.



Physical Education Standards Covered:

- PE 1.1 - Moves to open spaces while traveling at increasing rates of speed.
- PE 3.1 - Participates in enjoyable and challenging physical activities.
- PE 5.1 - Participates in a variety of group settings without interfering with others.
- PE 5.2 - Accepts responsibility for one's own behavior in a group activity.
- PE 5.7 - Participates positively in physical activities that rely on cooperation.

CC.1

OA.2

OA.3

OA.4

NBT.1

NBT.2

NBT.3

NBT.4

NBT.5

NBT.6

NBT.7

MD.1

MD.3

MD.6

MD.7

MD.8

MD.9

G.1

G.2

G.3





OPERATIONS & ALGEBRA 3 WORDS

ODD

EVEN

OA.1

OA.2

OA.3

OA.4

NBT.1

NBT.2

NBT.3

NBT.4

NBT.5

NBT.6

NBT.7

MD.1

MD.3

MD.6

MD.7

MD.8

MD.9

G.1

G.2

G.3



LEVEL

3

2.OA.4

OPERATIONS & ALGEBRA 4

In this Math 'N' Movement activity students will use addition equations to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns.

ACTIVITY

1. In teams of 4, students stand at least 5 metres from their 25 counters and their team's Operations & Algebra 4 Recording Sheet.
2. The first student in each team races, using the given movement, to collect the called number of counters and arrange them into the requested number of rows.
3. Students record on their team's Operations & Algebra 4 Recording Sheet how many counters were in each row and write an addition equation to represent this.
4. When correct, students return to their team and the remaining students take it in turn to collect counters and arrange them into rows.



Equipment Required:

- 25 counters per team.
- An Operations & Algebra 4 Recording Sheet and pencil per team.



Notes:

As students addition skills improve the number of counters could be increased so that more rows and columns could be counted. Students could also be asked to estimate the number of counters in each row prior to collecting their counters so that they are reasoning abstractly and not working just with concrete materials.



Mathematical Practices Covered:

- 2.1 - Makes sense of problems and perseveres in solving them.
- 2.2 - Reasons abstractly and quantitatively.
- 2.3 - Constructs viable arguments and critiques the reasoning of others.
- 2.4 - Models with mathematics.
- 2.5 - Uses appropriate tools strategically.
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Physical Education Standards Covered:

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- PE 5.2 - Accepts responsibility for one's own behavior in a group activity.
- PE 5.5 - Demonstrates respect for self, others, and equipment during physical activities.



MATH 'N' MOVEMENT



OPERATIONS & ALGEBRA 4 RECORDING SHEET

Round 1	Number of Counters	Number of Rows	Number of Columns	Addition Equation
Student 1 _____				
Student 2 _____				
Student 3 _____				
Student 4 _____				

Round 2	Number of Counters	Number of Rows	Number of Columns	Addition Equation
Student 1 _____				
Student 2 _____				
Student 3 _____				
Student 4 _____				

- OA.1
- OA.2
- OA.3
- OA.4
- NBT.1
- NBT.2
- NBT.3
- NBT.4
- NBT.5
- NBT.6
- NBT.7
- MD.1
- MD.3
- MD.6
- MD.7
- MD.8
- MD.9
- G.1
- G.2
- G.3



MATH 'N' MOVEMENT

LEVEL

3

2.NBT.1

NUMBER & BASE 10 - 1

In this Math 'N' Movement activity students will understand that the 3 digits of a 3 digit number represent amounts of hundreds, tens and ones.

ACTIVITY

1. In teams of 5, students line up 5 metres from their team's pile of Base 10 blocks.
2. When a number from 1 to 999 is called the first student in each team races, using the given movement, to grab that many blocks from their pile.
3. When the first team member returns and their blocks have been checked by their team members they place their pieces into their hula hoop.
4. Each time a student returns with their blocks they are recorded on the team's Number & Base 10 - 1 Recording Sheet and a running total recorded.
5. Once every team member has collected their blocks the running total for the round on each team's Number & Base 10 - 1 Recording Sheet should match the total of all the blocks in their team's hula hoop.



Equipment Required:

- A hula hoop per team.
- A selection of Base 10 Blocks - flats, longs and ones per team.
- A Number & Base 10 - 1 Recording Sheet and pencil per team.



Notes:

Base 10 blocks are common in most schools but if you do not have them you can use the printable templates available at Mathnmovement.com or use headless match sticks or cut straws bundled with an elastic band into tens and then ten tens bundled into hundreds.



Mathematical Practices Covered:

- 2.2 - Reasons abstractly and quantitatively.
- 2.4 - Models with mathematics.
- 2.5 - Uses appropriate tools strategically.
- 2.6 - Attends to precision.
- 2.7 - Looks for and makes use of structures.
- 2.8 - Looks for and expresses regularity in repeated reasoning.



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MATH 'N' MOVEMENT



NUMBER & BASE 10 - 1 RECORDING SHEET

Round 1	Number Called	Previous Total	New Total
Student 1: _____			
Student 2: _____			
Student 3: _____			
Student 4: _____			
Student 5: _____			

Round 2	Number Called	Previous Total	New Total
Student 1: _____			
Student 2: _____			
Student 3: _____			
Student 4: _____			
Student 5: _____			

Round 3	Number Called	Previous Total	New Total
Student 1: _____			
Student 2: _____			
Student 3: _____			
Student 4: _____			
Student 5: _____			

Round 4	Number Called	Previous Total	New Total
Student 1: _____			
Student 2: _____			
Student 3: _____			
Student 4: _____			
Student 5: _____			

OA.1

OA.2

OA.3

OA.4

NBT.1

NBT.2

NBT.3

NBT.4

NBT.5

NBT.6

NBT.7

MD.1

MD.3

MD.6

MD.7

MD.8

MD.9

G.1

G.2

G.3



MATH 'N' MOVEMENT

LEVEL

3

2.NBT.2

NUMBER & BASE 10 - 2

In this Math 'N' Movement activity students will count up to 200 using skip counting by 5s and 10s.

ACTIVITY

1. In teams of 5, students line up with their pile of Number & Base 10 - 2 Numbers, 5 metres from their team's hula hoop.
2. When 3 numbers are called ie. 25, 35 and 45 the first student in each team selects the next 3 numbers in that series from their Number & Base 10 - 2 Numbers and race, using the given movement, to place these in order in their hula hoop.
3. The first team to place their numbers correctly scores 2 points for their team and each other team with the correct numbers scores 1 point. If incorrect no points are scored by that team.
4. Students take it in turns to place numbers in the hula hoop and the team with the most points wins.



Equipment Required:

- A set of Number & Base 10 - 2 Numbers per team.
- A hula hoop per team.



Notes:

As students become proficient with the numbers provided and are able to incorporate numbers greater than 200 they could be given blank squares of paper on which to write the correct numbers to be placed in their hoop.



Mathematical Practices Covered:

- 2.1 - Makes sense of problems and perseveres in solving them.
- 2.2 - Reasons abstractly and quantitatively.
- 2.3 - Constructs viable arguments and critiques the reasoning of others.
- 2.4 - Models with mathematics.
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MATH 'N' MOVEMENT



5	10	15	20
25	30	35	40
45	50	55	60
65	70	75	80
85	90	95	100
105	110	115	120
125	130	135	140
145	150	155	160
165	170	175	180
185	190	195	200

OA.1

OA.2

OA.3

OA.4

NBT.1

NBT.2

NBT.3

NBT.4

NBT.5

NBT.6

NBT.7

MD.1

MD.3

MD.6

MD.7

MD.8

MD.9

G.1

G.2

G.3



MATH 'N' MOVEMENT

LEVEL

3

2.NBT.3

NUMBER & BASE 10 - 3

In this Math 'N' Movement activity students will read and write numbers to 9,999 using base 10 numerals, number names and expanded form using Egyptian numerals.

ACTIVITY

1. In teams of 4, students line up at least 5 metres from their Number & Base 10 - 3 Egyptian Symbols.
2. Students are shown what each symbol represents and how multiple symbols represent multiples of 10 ie. 4 coils of rope is 400 and 2 lotuses is 2000.
3. When a number up to 9,999 is called teams race, using the given movement, to collect their Egyptian Symbols to make that number in their hoop.
4. The 1st student in each team collects single strokes, the 2nd student collects heel bones, the 3rd student collects coils of rope and the 4th student collects lotuses to make the given number.
5. Students swap roles for each new round so each student has a chance to be 1st, 2nd, 3rd and 4th.



Equipment Required:

- A set of Number & Base 10 - 3 Egyptian Symbols per team.
- A hula hoop per team in which to create their number.



Notes:

It may be necessary in the first few rounds to show students the number being created in Hindu Arabic so they can see how many of each item they require.



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- 2.4 - Models with mathematics.
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MATH 'N' MOVEMENT



Ones	Tens	Hundreds	Thousands
—	⤴	☉	⊕
—	⤴	☉	⊕
—	⤴	☉	⊕
—	⤴	☉	⊕
—	⤴	☉	⊕
—	⤴	☉	⊕
—	⤴	☉	⊕
—	⤴	☉	⊕
—	⤴	☉	⊕
—	⤴	☉	⊕

- OA.1
- OA.2
- OA.3
- OA.4
- NBT.1
- NBT.2
- NBT.3
- NBT.4
- NBT.5
- NBT.6
- NBT.7
- MD.1
- MD.3
- MD.6
- MD.7
- MD.8
- MD.9
- G.1
- G.2
- G.3



MATH 'N' MOVEMENT

LEVEL

3

2.NBT.4

NUMBER & BASE 10 - 4

In this Math 'N' Movement activity students will compare 2 3-digit numbers based using $>$, $=$ and $<$ symbols.

ACTIVITY

1. Students are shown the Number & Base 10 - 4 Symbols ' $=$ ', ' $>$ ' and ' $<$ ' which are placed on the ground in 3 hula hoops at least 7 metres from each other.

2. When 2 x 3 digits numbers are called students race, using the given movement, to the symbol which best matches the relationship between the 2 numbers.



Equipment Required:

- The 3 Number & Base 10 - 4 Symbols.
- 3 hula hoops in which to place the symbol cards.



Notes:

The symbols have 'greater than' and 'less than' written on them so they can not be confused. When students reach the correct side a student could be chosen to repeat the 2 numbers with the correct symbol in the middle ie. 2 is less than 4, 8 is equal to 8 or 145 is greater than 129.



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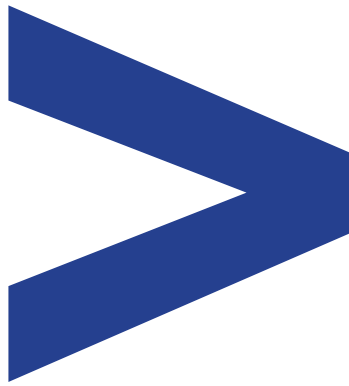
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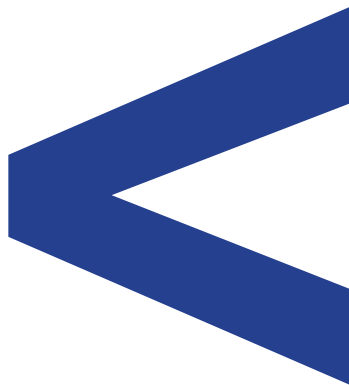
MATH 'N' MOVEMENT



NUMBER & BASE 10 - 4 SYMBOLS



Greater Than



Less Than

OA.1

OA.2

OA.3

OA.4

NBT.1

NBT.2

NBT.3

NBT.4

NBT.5

NBT.6

NBT.7

MD.1

MD.3

MD.6

MD.7

MD.8

MD.9

G.1

G.2

G.3



LEVEL

3

2.NBT.5

NUMBER & BASE 10 - 5

In this Math 'N' Movement activity students will fluently add and subtract within 100 using strategies based on place value and properties of operations.

ACTIVITY

1. In teams of 4 or 5, students line up with their Number & Base 10 - 5 Recording Sheet 5 metres from their pile of Number Cards.
2. The first student in each team is given a 2 digit plus 2 digit addition or subtraction to solve. Students complete the algorithm on their Number & Base 10 - 5 Recording Sheet and then race, using the given movement, to get the Number Cards which match their answer.
3. If incorrect the student must try again until they are correct and can return to their team so remaining team members can take it in turn to solve an addition or subtraction algorithm.



Equipment Required:

- A set of Number Cards 0-9 per team (see Operations & Algebra 2 - pg.8).
- A Number & Base 10 - 5 Recording Sheet and pencil per team.



Notes:

As there is only one of each number per team the addition algorithms chosen cannot have repeating numbers in their answer. As students become more proficient at this you may wish to add more sets of cards and increase the number of digits in the algorithm being completed.



Mathematical Practices Covered:

- 2.1 - Makes sense of problems and perseveres in solving them.
- 2.2 - Reasons abstractly and quantitatively.
- 2.4 - Models with mathematics.
- 2.5 - Uses appropriate tools strategically.
- 2.6 - Attends to precision.
- 2.7 - Looks for and makes use of structures.



Physical Education Standards Covered:

- PE 1.1 - Moves to open spaces while traveling at increasing rates of speed.
- PE 3.1 - Participates in enjoyable and challenging physical activities.
- PE 5.1 - Participates in a variety of group settings without interfering with others.
- PE 5.2 - Accepts responsibility for one's own behavior in a group activity.
- PE 5.5 - Demonstrates respect for self, others, and equipment during physical activities.



MATH 'N' MOVEMENT



NUMBER & BASE 10 - 5 RECORDING SHEET

Round 1	1st Number	Plus	2nd Number	Equals	Addition Total
Student 1: _____		+		=	
Student 2: _____		+		=	
Student 3: _____		+		=	
Student 4: _____		+		=	
Student 5: _____		+		=	

Round 2	1st Number	Plus	2nd Number	Equals	Addition Total
Student 1: _____		+		=	
Student 2: _____		+		=	
Student 3: _____		+		=	
Student 4: _____		+		=	
Student 5: _____		+		=	

Round 3	1st Number	Plus	2nd Number	Equals	Addition Total
Student 1: _____		+		=	
Student 2: _____		+		=	
Student 3: _____		+		=	
Student 4: _____		+		=	
Student 5: _____		+		=	

Round 4	1st Number	Plus	2nd Number	Equals	Addition Total
Student 1: _____		+		=	
Student 2: _____		+		=	
Student 3: _____		+		=	
Student 4: _____		+		=	
Student 5: _____		+		=	

Round 5	1st Number	Plus	2nd Number	Equals	Addition Total
Student 1: _____		+		=	
Student 2: _____		+		=	
Student 3: _____		+		=	
Student 4: _____		+		=	
Student 5: _____		+		=	

OA.1

OA.2

OA.3

OA.4

NBT.1

NBT.2

NBT.3

NBT.4

NBT.5

NBT.6

NBT.7

MD.1

MD.3

MD.6

MD.7

MD.8

MD.9

G.1

G.2

G.3



MATH 'N' MOVEMENT

LEVEL

3

2.NBT.6

NUMBER & BASE 10 - 6

In this Math 'N' Movement activity students will add up to 4 2 digit numbers using strategies based on place value and properties of operations.

ACTIVITY

1. In teams of 4, students place their team's Number & Base 10 - 6 Score Board in the middle of their hula hoop.
2. Standing with their toes touching the hula hoop, students take it in turns to place their 4 counters onto the Score Board trying to get the counters to land in the middle circle.
3. When all team members have placed their 4 counters students add up their total score.
4. The student with the highest score wins and may go first for the next round.



Equipment Required:

- A Number & Base 10 - 6 Score Board & Recording Sheet and pencil per team.
- A hula hoop per team.
- 4 counters per student.



Notes:

Students can decide in their group whether they will take turns to throw one counter each or throw all 5 of their counters, record their score and then clear their counters for the next student to play.



Mathematical Practices Covered:

- 2.2 - Reasons abstractly and quantitatively.
- 2.4 - Models with mathematics.
- 2.5 - Uses appropriate tools strategically.
- 2.6 - Attends to precision.
- 2.7 - Looks for and makes use of structures.



Physical Education Standards Covered:

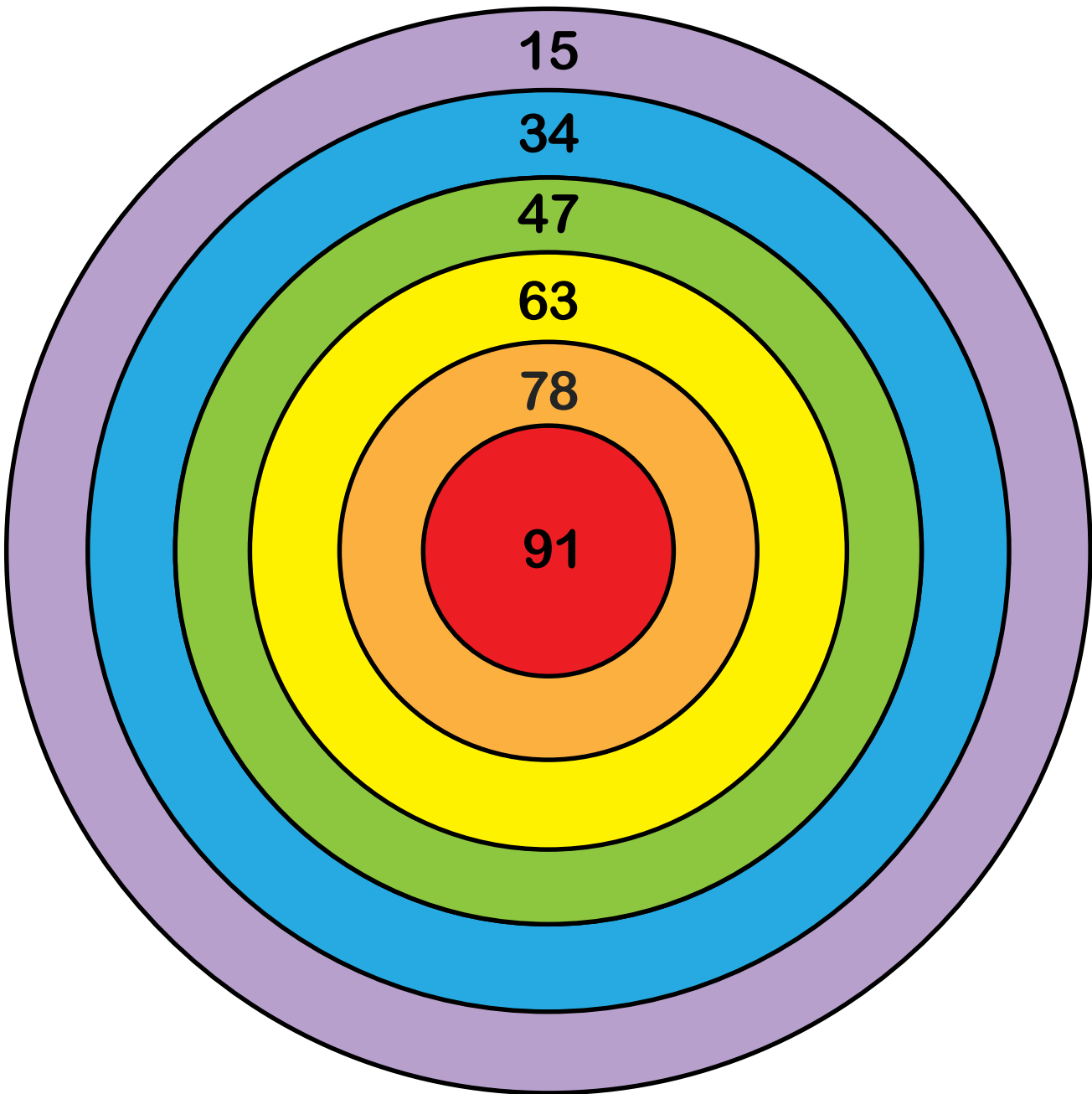
- PE 1.1 - Moves to open spaces while traveling at increasing rates of speed.
- PE 1.8 Throws a disc for distance, using proper form.
- PE 2.6 Identifies opportunities to use underhand throw movement patterns.
- PE 3.1 - Participates in enjoyable and challenging physical activities.
- PE 5.2 - Accepts responsibility for one's own behavior in a group activity.
- PE 5.5 - Demonstrates respect for self, others, and equipment during physical activities.



MATH 'N' MOVEMENT



	Student _____	Student _____	Student _____	Student _____
Counter 1				
Counter 2				
Counter 3				
Counter 4				
Total				



- OA.1
- OA.2
- OA.3
- OA.4
- NBT.1
- NBT.2
- NBT.3
- NBT.4
- NBT.5
- NBT.6
- NBT.7
- MD.1
- MD.3
- MD.6
- MD.7
- MD.8
- MD.9
- G.1
- G.2
- G.3



MATH 'N' MOVEMENT

LEVEL

3

2.NBT.7

NUMBER & BASE 10 - 7

In this Math 'N' Movement activity students will add and subtract within 1000 based on place value, mentally adding and subtracting 10 and the properties of operations.

ACTIVITY

1. As a class, students use a tape measure or trundle wheel to measure the length of all students stretched out holding hands.
2. As a class, students measure the length of all students standing shoulder to shoulder.
3. As a class, students measure the length of all students sitting cross legged knee to knee.
4. As a class, students measure the length of all students standing with their hands on the shoulder of the student in front.
5. Students use the lengths they measured to complete their Number & Base 10 - 7 Recording Sheet.



Equipment Required:

- A tape measure or trundle wheel.
- A Number & Base 10 - 7 Recording Sheet and pencil per student.



Notes:

This activity is a fun way to use real world measurements in an addition and subtraction activity. While 4 ideas have been provided students could also measure the length of them all sitting with their feet touching the back of the student in front, them all side on with one arm outstretched or any other form of length they wish to create.



Mathematical Practices Covered:

- 2.1 - Makes sense of problems and perseveres in solving them.
- 2.2 - Reasons abstractly and quantitatively.
- 2.4 - Models with mathematics.
- 2.5 - Uses appropriate tools strategically.
- 2.6 - Attends to precision.
- 2.7 - Looks for and makes use of structures.
- 2.8 - Looks for and expresses regularity in repeated reasoning.



Physical Education Standards Covered:

- PE 3.1 - Participates in enjoyable and challenging physical activities.
- PE 5.1 - Participates in a variety of group settings without interfering with others.
- PE 5.2 - Accepts responsibility for one's own behavior in a group activity.
- PE 5.5 - Demonstrates respect for self, others, and equipment during physical activities.
- PE 5.7 - Participates positively in physical activities that rely on cooperation.



MATH 'N' MOVEMENT



NUMBER & BASE 10 - 7 RECORDING SHEET

Record the lengths you measured.

1. The length of all students stretched out holding hands. _____
2. The length of all students standing shoulder to shoulder. _____
3. The length of all students sitting cross legged knee to knee. _____
4. The length of all students standing with hands on shoulders. _____

Solve the algorithms below using these lengths.

A	The longest length?	
B	The shortest length?	
C	The 2nd longest length?	
D	The 2nd shortest length?	

Algebraic Term/Length	+ / -	Algebraic Term/Length	Equals	Answer
A: _____	+	B: _____	=	
A: _____	-	B: _____	=	
A: _____	+	C: _____	=	
A: _____	-	C: _____	=	
A: _____	+	D: _____	=	
A: _____	-	D: _____	=	
C: _____	+	D: _____	=	
C: _____	-	D: _____	=	
C: _____	+	B: _____	=	
C: _____	-	B: _____	=	
D: _____	+	B: _____	=	
D: _____	-	B: _____	=	



MATH 'N' MOVEMENT

LEVEL

3

2.MD.1

MEASUREMENT & DATA 1

In this Math 'N' Movement activity students will measure the length of an object twice - once using informal units and once using standard units of measurement.

ACTIVITY

1. Students take it in turns to throw a shot put and then measure, using textbooks laid end to end, how far they were able to put the shot.
2. Each student records their put length and that of 15 of their classmates on their Measurement & Data 1 Recording Sheet A to find the shortest put, furthest put and average put lengths.
3. Students then remeasure their textbook length using a tape measure and record this and 15 of their classmates on their Measurement & Data 1 Recording Sheet B and see if the same results apply for the shortest, furthest and average put lengths.



Equipment Required:

- A shot put.
- At least 15 textbooks.
- A tape measure.
- A Measurement & Data 1 Recording Sheets A & B and pencil per student.



Notes:

If you do not have access to a shot put a bottle filled with sand or other 500g item could be used for this activity. You may also wish to allow each student 3 attempts at putting the shot and take their furthest put as the one to be recorded.



Mathematical Practices Covered:

- 2.4 - Models with mathematics.
- 2.5 - Uses appropriate tools strategically.
- 2.6 - Attends to precision.



Physical Education Standards Covered:

- PE 1.8 - Puts a shot using proper form.
- PE 2.6 - Identifies opportunities to use correct movement to put rather than throw.
- PE 3.1 - Participates in enjoyable and challenging physical activities.
- PE 5.1 - Participates in a variety of group settings without interfering with others.
- PE 5.2 - Accepts responsibility for one's own behavior in a group activity.
- PE 5.5 - Demonstrates respect for self, others, and equipment during physical activities.



MATH 'N' MOVEMENT



MEASUREMENT & DATA 1 RECORDING SHEET A

	Students Put in Textbook Lengths														
15 Textbooks															
14.5 Textbooks															
14 Textbooks															
13.5 Textbooks															
13 Textbooks															
12.5 Textbooks															
12 Textbooks															
11.5 Textbooks															
11 Textbooks															
10.5 Textbooks															
10 Textbooks															
9.5 Textbooks															
9 Textbooks															
8.5 Textbooks															
8 Textbooks															
7.5 Textbooks															
7 Textbooks															
6.5 Textbooks															
6 Textbooks															
5.5 Textbooks															
5 Textbooks															
4.5 Textbooks															
4 Textbooks															
3.5 Textbooks															
3 Textbooks															
2.5 Textbooks															
2 Textbooks															
1.5 Textbooks															
1 Textbook															

You: _____
 Student 1: _____
 Student 2: _____
 Student 3: _____
 Student 4: _____
 Student 5: _____
 Student 6: _____
 Student 7: _____
 Student 8: _____
 Student 9: _____
 Student 10: _____
 Student 11: _____
 Student 12: _____
 Student 13: _____
 Student 14: _____
 Student 15: _____

Shortest Put: _____ Longest Put: _____ Average Put Length: _____



- OA.1
- OA.2
- OA.3
- OA.4
- NBT.1
- NBT.2
- NBT.3
- NBT.4
- NBT.5
- NBT.6
- NBT.7
- MD.1
- MD.3
- MD.6
- MD.7
- MD.8
- MD.9
- G.1
- G.2
- G.3

MATH 'N' MOVEMENT



MEASUREMENT & DATA 1 RECORDING SHEET B

Students Put in Metres and Centimetres															
3m															
2m 90cm															
2m 80cm															
2m 70cm															
2m 60cm															
2m 50cm															
2m 40cm															
2m 30cm															
2m 20cm															
2m 10cm															
2m															
1m 90cm															
1m 80cm															
1m 70cm															
1m 60cm															
1m 50cm															
1m 40cm															
1m 30cm															
1m 20cm															
1m 10cm															
1m															
90cm															
80cm															
70cm															
60cm															
50cm															
40cm															
30cm															
20cm															

You: _____
 Student 1: _____
 Student 2: _____
 Student 3: _____
 Student 4: _____
 Student 5: _____
 Student 6: _____
 Student 7: _____
 Student 8: _____
 Student 9: _____
 Student 10: _____
 Student 11: _____
 Student 12: _____
 Student 13: _____
 Student 14: _____
 Student 15: _____

Shortest Put: _____ Longest Put: _____ Average Put Length: _____



- OA.1
- OA.2
- OA.3
- OA.4
- NBT.1
- NBT.2
- NBT.3
- NBT.4
- NBT.5
- NBT.6
- NBT.7
- MD.1
- MD.3
- MD.6
- MD.7
- MD.8
- MD.9
- G.1
- G.2
- G.3

MATH 'N' MOVEMENT

LEVEL

3

2.MD.3

MEASUREMENT & DATA 3

In this Math 'N' Movement activity students will estimate lengths and then measure them to find the difference between their estimated and the actual length.

ACTIVITY

1. Students form a line facing a limbo pole held by 2 students at 1.5 metres high.
2. Students predict on their Measurement & Data 3 Recording Sheet each class member's lowest limbo height and then attempt to limbo under the pole before returning to the end of the line.
3. The students holding the limbo pole measure the height of the student passing under the pole and announce the height for other students to record.
4. The students holding the pole swap each round as the pole is lowered 10 cms.
5. Students unable to clear the pole are eliminated until each class member's actual limbo height is found and recorded.



Equipment Required:

- A long wooden pole or broom handle.
- A tape measure.
- A Measurement & Data 3 Recording Sheet and pencil per student.



Notes:

It is a good idea to place a crash mat underneath the limbo bar for students who over balance and fall backwards while limboing. It may also be fun to have Chubby Checker's 'Limbo Rock' playing so students can move in time to the beat.



Mathematical Practices Covered:

- 2.2 - Reasons abstractly and quantitatively.
- 2.3 - Constructs viable arguments and critiques the reasoning of others.
- 2.4 - Models with mathematics.
- 2.5 - Uses appropriate tools strategically.
- 2.6 - Attends to precision.



Physical Education Standards Covered:

- PE1.17 - Demonstrates a smooth transition of locomotor skills in response to music.
- PE 3.1 - Participates in enjoyable and challenging physical activities.
- PE 5.1 - Participates in a variety of group settings without interfering with others.
- PE 5.4 - Encourages others by using verbal and nonverbal communication.
- PE 5.5 - Demonstrates respect for self, others, and equipment during physical activities.
- PE 5.7 - Participates positively in physical activities that rely on cooperation.



MATH 'N' MOVEMENT



- OA.1
- OA.2
- OA.3
- OA.4
- NBT.1
- NBT.2
- NBT.3
- NBT.4
- NBT.5
- NBT.6
- NBT.7
- MD.1
- MD.3
- MD.6
- MD.7
- MD.8
- MD.9
- G.1
- G.2
- G.3

Predicted Student Limbo Heights in Metres and Centimetres

1m 50cm																	
1m 40cm																	
1m 30cm																	
1m 20cm																	
1m 10cm																	
1m																	
90cm																	
80cm																	
70cm																	
60cm																	
50cm																	
40cm																	

Actual Student Limbo Heights in Metres and Centimetres

1m 50cm																	
1m 40cm																	
1m 30cm																	
1m 20cm																	
1m 10cm																	
1m																	
90cm																	
80cm																	
70cm																	
60cm																	
50cm																	
40cm																	

You: _____ Student: _____ Student: _____ Student: _____ Student: _____ Student: _____ Student: _____ Student: _____ Student: _____ Student: _____ Student: _____ Student: _____ Student: _____ Student: _____ Student: _____ Student: _____

Lowest Actual Height: _____ Highest Actual Height: _____

Difference Between Lowest and Highest Heights: _____



LEVEL

3

2.MD.6

MEASUREMENT & DATA 6

In this Math 'N' Movement activity students will represent whole numbers as lengths from 0 on a number line with equally spaced points corresponding to whole numbers.

ACTIVITY

1. In teams of 5, students sit at the base of their rope with the numbers 1 to 20 equally spaced a textbook length apart along the rope.
2. When an algorithm (with an answer less than 20) is called the first student in each team jumps over each number on the rope until they reach the number which corresponds to the answer.
3. When the correct number is reached the first student can walk back to their team and the next student in each team will be given a new algorithm to solve.



Equipment Required:

- A long piece of rope or a line drawn on the concrete per team.
- The Measurement & Data 6 Numbers on card or written next to each team's line.



Notes:

Addition, subtractions, multiplication and division equations can be given to students and as students skills increase the numbers could be increased to include numbers up to 100 with students running to the correct answer rather than jumping to it.



Mathematical Practices Covered:

- 2.1 - Makes sense of problems and perseveres in solving them.
- 2.2 - Reasons abstractly and quantitatively.
- 2.3 - Constructs viable arguments and critiques the reasoning of others.
- 2.4 - Models with mathematics.
- 2.5 - Uses appropriate tools strategically.
- 2.6 - Attends to precision.
- 2.7 - Looks for and makes use of structures.
- 2.8 - Looks for and expresses regularity in repeated reasoning.



Physical Education Standards Covered:

- PE1.5 - Jumps for distance, landing on both feet and bending the hips, knees, and ankles to reduce the impact force.
- PE 3.1 - Participates in enjoyable and challenging physical activities.
- PE 5.1 - Participates in a variety of group settings without interfering with others.
- PE 5.2 - Accepts responsibility for one's own behavior in a group activity.
- PE 5.5 - Demonstrates respect for self, others, and equipment during physical activities.



MATH 'N' MOVEMENT



- OA.1
- OA.2
- OA.3
- OA.4
- NBT.1
- NBT.2
- NBT.3
- NBT.4
- NBT.5
- NBT.6
- NBT.7
- MD.1
- MD.3
- MD.6
- MD.7
- MD.8
- MD.9
- G.1
- G.2
- G.3

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20



LEVEL

3

2.MD.7

MEASUREMENT & DATA 7

In this Math 'N' Movement activity students will tell and write time from analog and digital clocks to the nearest minute using a.m. and p.m. notation.

ACTIVITY

1. In teams of 4 or 5, students line up 5 metres from their pile of 10 Measurement & Data 7 Time Cards.
2. Students take it in turns to race, using the given movement, to their pile of Time Cards and retrieve one card and return it to their team until all 10 Time Cards have been collected.
3. Team's work together to place each Time Card in its correct position so that all their Time Cards are arranged in order with 1 footstep between each Time Card.



Equipment Required:

- 5 Measurement & Data 7 Analog Time Cards in a pile per team.
- 5 Measurement & Data 7 Digital Time cards per team.



Notes:

Students could be asked to record all of their times in a single notation such as digitally and with 12 or 24 hour time. Once students have completed this challenge they could be given a different set of 10 cards.



Mathematical Practices Covered:

- 2.1 - Makes sense of problems and perseveres in solving them.
- 2.2 - Reasons abstractly and quantitatively.
- 2.3 - Constructs viable arguments and critiques the reasoning of others.
- 2.4 - Models with mathematics.
- 2.5 - Uses appropriate tools strategically.
- 2.6 - Attends to precision.
- 2.7 - Looks for and makes use of structures.



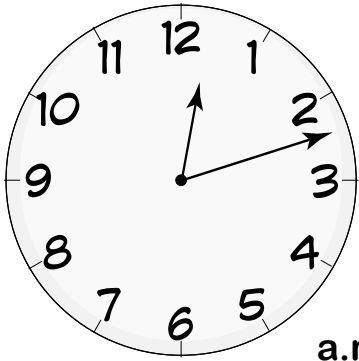
Physical Education Standards Covered:

- PE 3.1 - Participates in enjoyable and challenging physical activities.
- PE 5.1 - Participates in a variety of group settings without interfering with others.
- PE 5.2 - Accepts responsibility for one's own behavior in a group activity.
- PE 5.5 - Demonstrates respect for self, others, and equipment during physical activities.
- PE 5.6 - Demonstrates how to solve a problem with another person during physical activity.
- PE 5.7 - Participates positively in physical activities that rely on cooperation.

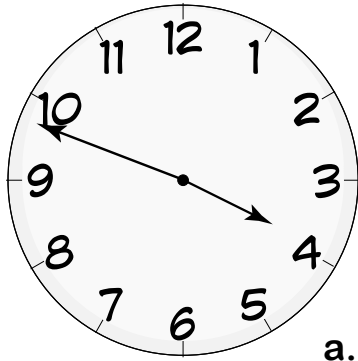


MATH 'N' MOVEMENT

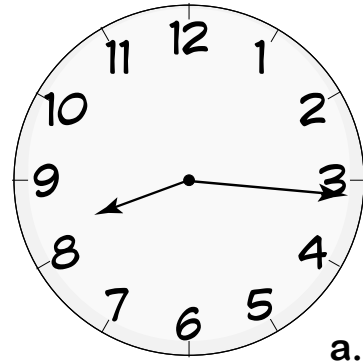
MEASUREMENT & DATA 7 ANALOG CLOCKS



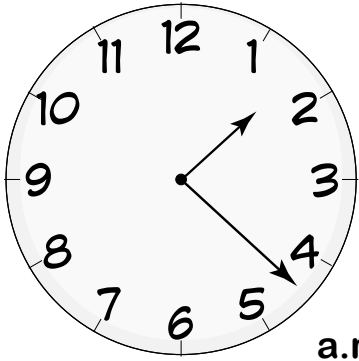
a.m.



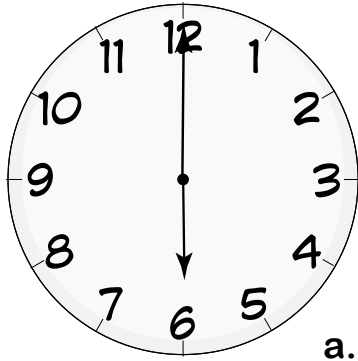
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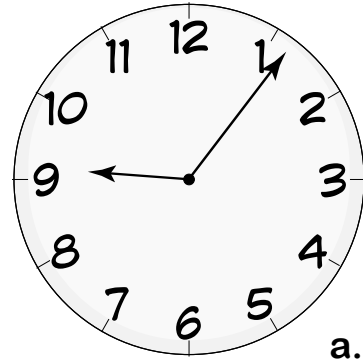
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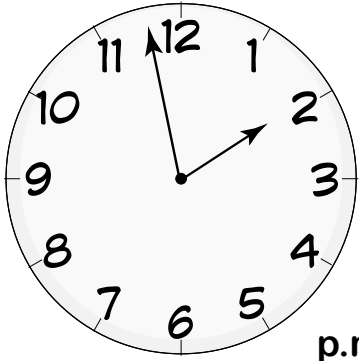
a.m.



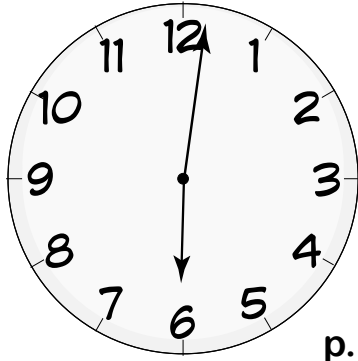
a.m.



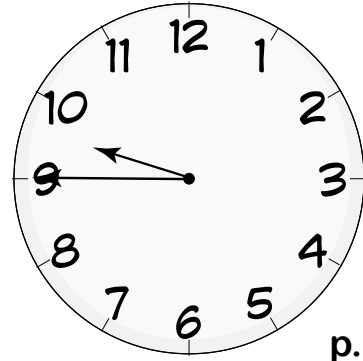
a.m.



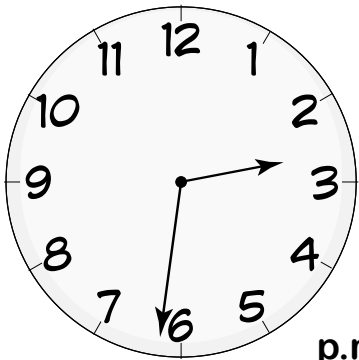
p.m.



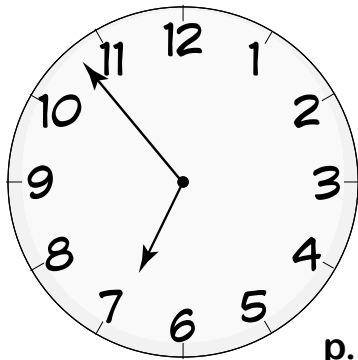
p.m.



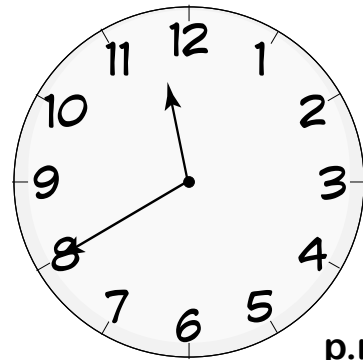
p.m.



p.m.



p.m.



p.m.



MATH 'N' MOVEMENT



MEASUREMENT & DATA 7 DIGITAL CLOCKS

1:34

2:56

3:19

5:27

6:43

7:12

8:05

9:21

10:07

11:54

12:38

13:23

14:46

16:25

17:41

18:07

19:53

20:18

21:12

22:56

23:04

OA.1

OA.2

OA.3

OA.4

NBT.1

NBT.2

NBT.3

NBT.4

NBT.5

NBT.6

NBT.7

MD.1

MD.3

MD.6

MD.7

MD.8

MD.9

G.1

G.2

G.3



LEVEL

3

2.MD.8

MEASUREMENT & DATA 8

In this Math 'N' Movement activity students will solve problems including money.

ACTIVITY

1. In teams of 4 or 5, students sit with their Measurement & Data 8 Recording Sheet at least 5 metres from their team's \$5 money cards.
2. Each team is shown a Shopping Card and calculates on their Measurement & Data 8 Recording Sheet the change from \$5 required if that item was purchased.
3. The first student in each team races, using the given movement, to their \$5 money bowl and counts out the correct change.
4. When the student returns to their team the next student in each team is shown either a new item or multiple items to be purchased.



Equipment Required:

- A selection of coins to make \$5.00 in a bowl per team.
- A Measurement & Data 8 Recording Sheet and pencil per team.
- The Measurement & Data 8 Shopping Cards on cardboard.



Notes:

The shopping items need not be limited to those provided here but could be called out without a picture to accompany them or additional cards could be made from store catalogues. Also the change need not be limited to \$5 but could be higher depending on student's ability.



Mathematical Practices Covered:

- 2.1 - Makes sense of problems and perseveres in solving them.
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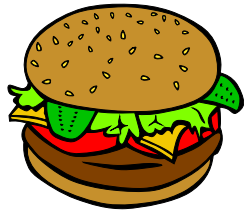
MATH 'N' MOVEMENT

MEASUREMENT & DATA 8 SHOPPING CARDS

\$3.50



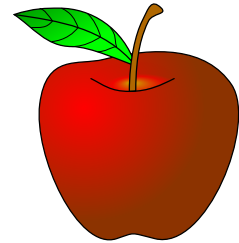
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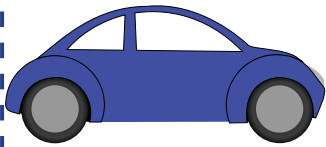
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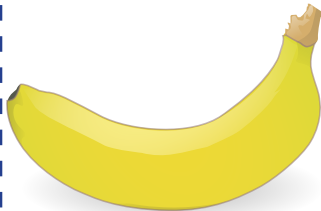
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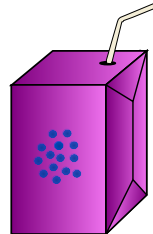
\$5



70c



\$1.20



\$4.90



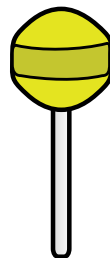
\$1.60



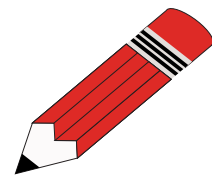
\$2.50



30c



90c



OA.1

OA.2

OA.3

OA.4

NBT.1

NBT.2

NBT.3

NBT.4

NBT.5

NBT.6

NBT.7

MD.1

MD.3

MD.6

MD.7

MD.8

MD.9

G.1

G.2

G.3



MATH 'N' MOVEMENT



- OA.1
- OA.2
- OA.3
- OA.4
- NBT.1
- NBT.2
- NBT.3
- NBT.4
- NBT.5
- NBT.6
- NBT.7
- MD.1
- MD.3
- MD.6
- MD.7
- MD.8
- MD.9
- G.1
- G.2
- G.3

Items	Cost	Change from \$5



LEVEL

3

2.MD.9

MEASUREMENT & DATA 9

In this Math 'N' Movement activity students will generate measurement data by measuring the length of several objects to the nearest whole unit.

ACTIVITY

1. In pairs, students use a ruler to measure the length of each of their forearms from the tip of their middle finger to their elbow (a cubit) and record this on their Measurement & Data 9 Recording Sheet.
2. Students work together to estimate and then measure the length of 5 classroom items in cubits.
3. Students calculate the difference between their estimated and actual measurements on their Measurement and Data 9 Recording Sheet.



Equipment Required:

- A ruler per pair.
- A Measurement & Data 9 Recordings Sheet and pencil per pair.
- Items in the classroom to be measured ie. desks, chairs etc.



Notes:

There are many items which students can measure for this activity but they must be able to reach the full length of the item so door heights or windows would not be measurable.



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MATH 'N' MOVEMENT



Student	Cubit Length
_____	_____
_____	_____

Item Being Measured	Estimated Cubit Length	Actual Cubit Length	Difference Between Estimation & Actual Length

- OA.1
- OA.2
- OA.3
- OA.4
- NBT.1
- NBT.2
- NBT.3
- NBT.4
- NBT.5
- NBT.6
- NBT.7
- MD.1
- MD.3
- MD.6
- MD.7
- MD.8
- MD.9
- G.1
- G.2
- G.3



MATH 'N' MOVEMENT

LEVEL

3

2.G.1

GEOMETRY 1

In this Math 'N' Movement activity students will recognize and draw shapes such as triangles, quadrilaterals, pentagons and hexagons based on their specific attributes.

ACTIVITY

1. In teams of 4, students stand at least 5 meters from their Geometry 1 Recording Sheet.
2. When a 2D shape is called the first student in each team races, using the given movement, to their Geometry 1 Recording Sheet and attempts to draw that shape.
3. When finished the student race back to their team and remaining students take it in turn to race and record shapes.
4. This continues until all students have had a chance to draw at least 2 x 2D shapes.



Equipment Required:

- A Geometry 1 Recording Sheet and pencil per team.



Notes:

For this activity it is expected that students will draw regular hexagons and octagons rather than merely 6 or 8 sided shapes. As an alternative to the Recording Sheets students could race to a white board and draw their shape for the rest of the class to see.



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Physical Education Standards Covered:




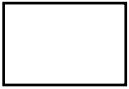






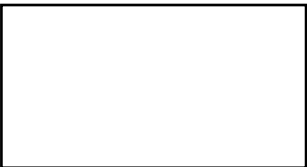

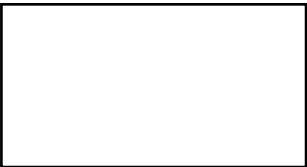



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MATH 'N' MOVEMENT



GEOMETRY 1 RECORDING SHEET

Student	Shape Drawing	Name of Shape	Number of Sides
_____		_____	
_____		_____	
_____		_____	
_____		_____	
_____		_____	
_____		_____	
_____		_____	
_____		_____	

OA.1

OA.2

OA.3

OA.4

NBT.1

NBT.2

NBT.3

NBT.4

NBT.5

NBT.6

NBT.7

MD.1

MD.3

MD.6

MD.7

MD.8

MD.9

G.1

G.2

G.3



LEVEL

3

2.G.2

GEOMETRY 2

In this Math 'N' Movement activity students will use blocks to make rows and columns to calculate area.

ACTIVITY

1. In teams of 4, students sit 5 metres from their container of 30 connecting blocks.
2. When an area is called the first student in each team races, using the given movement, to collect that many blocks and return them to their team.
3. As a team, students connect the blocks into the area that was called and record it in 3D on their team's dot paper Geometry 2 Recording Sheet.
4. Once checked and various constructions shown the blocks are disconnected and returned to the block container. Remaining students take it in turn to race to collect their blocks.



Equipment Required:

- 30 connecting blocks in a container per team.
- A Geometry 2 Recording Sheet and pencil per team.



Notes:

Once each student has had a turn at constructing the area given, students could be told the number of blocks in the length and width of the perimeter so they calculate the area and number of blocks required.



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MATH 'N' MOVEMENT



Blocks	Your Constructions

- OA.1
- OA.2
- OA.3
- OA.4
- NBT.1
- NBT.2
- NBT.3
- NBT.4
- NBT.5
- NBT.6
- NBT.7
- MD.1
- MD.3
- MD.6
- MD.7
- MD.8
- MD.9
- G.1
- G.2
- G.3



LEVEL

3

2.G.3

GEOMETRY 3

In this Math 'N' Movement activity students will describe shares using halves, thirds and quarters.

ACTIVITY

1. In teams of 4, students sit 5 metres from their team's bowl of 30 counters.
2. When a number less than 30 is called the first student in each team races, using the given movement, to collect that many counters.
3. As a team, students work together to see if the counters can be divided evenly into 2 (half), 3 (thirds) or 4 (quarters) groups.
4. On their team's Geometry 3 Recording Sheet students record how many counters were in each group or if it could not be divided evenly.
5. The first student races the counters back to their bowl and the remaining team members take it in turn to collect and return counters.



Equipment Required:

- A bowl containing 30 counters per team.
- A Geometry 3 Recording Sheet and pencil per team.



Notes:

If preferred this activity can be limited to students dividing the counters into just one fraction such as halves, thirds or quarters rather than all three in the one activity. The fractions not used this time can be used at a later time.



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MATH 'N' MOVEMENT



GEOMETRY 3 RECORDING SHEET

Number of Counters	$\frac{1}{2}$ or 0.5	$\frac{1}{3}$ or 0.33	$\frac{1}{4}$ or 0.25
	Counters is each group _____ or can't be done.	Counters is each group _____ or can't be done.	Counters is each group _____ or can't be done.
	Counters is each group _____ or can't be done.	Counters is each group _____ or can't be done.	Counters is each group _____ or can't be done.
	Counters is each group _____ or can't be done.	Counters is each group _____ or can't be done.	Counters is each group _____ or can't be done.
	Counters is each group _____ or can't be done.	Counters is each group _____ or can't be done.	Counters is each group _____ or can't be done.
	Counters is each group _____ or can't be done.	Counters is each group _____ or can't be done.	Counters is each group _____ or can't be done.
	Counters is each group _____ or can't be done.	Counters is each group _____ or can't be done.	Counters is each group _____ or can't be done.

- OA.1
- OA.2
- OA.3
- OA.4
- NBT.1
- NBT.2
- NBT.3
- NBT.4
- NBT.5
- NBT.6
- NBT.7
- MD.1
- MD.3
- MD.6
- MD.7
- MD.8
- MD.9
- G.1
- G.2
- G.3

