

# MATHS 'N' MOVEMENT



## **Move the desks to the side of the room it's time for maths!**

**This edition of Maths 'N' Movement is designed specifically for English Schools and combines the National Mathematics Programmes of Study with the Physical Education Programmes of Study. With programs available from Kindergarten to Year 6 it provides a fun way to effectively engage students in maths learning across all 17 strands of the Maths Curriculum.**

**Maths 'N' Movement increases both on task student behaviour and fitness by combining Maths with the key PD/H/PE topics of fundamental movement skills, co-operation, game play, safety, nutrition and acceptance of consequences for one's actions.**

**Designed to get more students, more active, more often, Maths '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 even realise they are working so 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.mathsnmovement.co.uk](http://www.mathsnmovement.co.uk).**

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# MATHS 'N' MOVEMENT

LEVEL

4

GRADE 3

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LEVEL

4

Grade 3

## WHOLE NUMBER

In this Maths 'N' Movement activity students will apply place value to order, read and represent numbers of up to five digits.

### ACTIVITY

1. In teams of 4 or 5, students sit 5 metres from their team's Whole Number Recording Sheet.
2. The first student in each team races, using the given movement, to their Whole Number Recording Sheet 5 metres away.
3. When they reach their Recording Sheet students are told a number to record.
4. Students record the number given and the numbers before and after that number.
5. When completed they race back to their team and their next team member has a turn.



### Equipment Required:

- A Whole Number Recording Sheet and pencil per team.



### Notes:

Once students have mastered the numbers before and after they could write the number 4 before and 4 after the given number or any other place value before and after as given by you.



### Additional Maths Outcomes Covered:

**Working Mathematically** - Uses appropriate terminology and symbols to represent mathematical ideas.

**Addition** - Uses mental and written strategies for addition if 2 numbers are added and then the numbers before and after are found.

**Subtraction** - Uses mental and written strategies for subtraction if 2 numbers are subtracted from each other and then the numbers before and after are found.

**Multiplication** - Uses mental and informal written strategies for multiplication if 2 numbers are multiplied together and then the numbers before and after are found.



### PD/H/PE Outcomes Covered:

**Communicating** – Uses a variety of ways to communicate with and within a group.

**Interacting** - Makes positive contributions in group activities.

**Moving/FMS** – Displays a focus on quality of the chosen movement skills.



# MATHS 'N' MOVEMENT



Number Before	Number	Number After

- Whole Number
- Addition
- Subtraction
- Multiplication & Division
- Fractions & Decimals
- Chance
- Patterns & Algebra
- Data
- Length
- Area
- Volume & Capacity
- Mass
- Time
- 3D Space
- 2D Space
- Angles
- Position



LEVEL

4

Grade 3

## ADDITION

In this Maths 'N' Movement activity students will use mental and written strategies for addition involving numbers up to five digits.

### ACTIVITY

1. In teams of 4, students play a whole class game of t-ball (baseball without a pitcher). With such small teams it is possible for every batting team member to be playing while the rest of the class is fielding.
2. Each team has 10 minutes to score as many runs as they can. Students record their total number of runs on their team's Addition Recording Sheet.
3. Students score 5 for each base reached and a bonus 50 points for a home run.
4. Team's compare their final scores to find the winning team.



### Equipment Required:

- Sporting equipment to play t-ball ie. tee, mats, bat etc.
- A 10 minute timer.
- An Addition Recording Sheet and pencil per team.



### Notes:

If you do not have access to t-ball equipment - baseball, softball, cricket or rounders could all be substituted for this activity.



### Additional Maths Outcomes Covered:

**Multiplication** - Uses mental and strategies for multiplication when runs are worth 5.

**Fractions** - Represents, models and compares commonly used fractions & decimals if they work out how many runs they scored as a fraction of the team's total.

**Probability** - Describes and compares chance events in terms of their chance of hitting a home run and a bonus 50 points.

**Length** - Measures, records and compares lengths if hits are measured.

**Position** - Uses simple maps to represent position on the field.



### PD/H/PE Outcomes Covered:

**Active Lifestyle** - Discusses the relationship between regular physical activity and health.

**Communicating** - Uses a variety of ways to communicate with and within a group.

**Interacting** - Makes positive contributions in group activities.

**Moving/FMS** - Displays a focus on quality of movement in applying movement skills to a variety of familiar situations especially 2 handed strike.

**Games & Sport** - Uses equipment in a variety of games and modified sports.



# MATHS 'N' MOVEMENT



Students In Team	Number Of Runs	Score When Each Run Is Worth 5 Points	Number Of Home Runs	Score When Each Home Run Is Worth 50 Points	Total Of Runs and Home Runs	Fraction Of Runs Scored By Each Team Member

- Whole Number
- Addition
- Subtraction
- Multiplication & Division
- Fractions & Decimals
- Chance
- Patterns & Algebra
- Data
- Length
- Area
- Volume & Capacity
- Mass
- Time
- 3D Space
- 2D Space
- Angles
- Position





LEVEL

4

Grade 3

## SUBTRACTION

In this Maths 'N' Movement activity students will use mental and written strategies for subtraction involving numbers up to five digits.

### ACTIVITY

1. In teams of 4 students race, using the movement given, to get 2 of their team's Subtraction Number Cards which are in a pile at least 5 metres away.
2. When they return to their team students record both their numbers on their team's Subtraction Recording Sheet before racing to return the cards.
3. Each student in turn collects, returns and records 2 numbers onto their Subtraction Recording Sheet.
4. Student work together to find the larger of the 2 four digit numbers they have created and subtract the smaller number from the larger number.
5. This activity should be repeated 4 times, making new numbers each time, so each student has a chance to place their numbers in each place value.



### Equipment Required:

- A set of Subtraction Number Cards from 0 to 9 per team.
- A Subtraction Recording Sheet and pencil per team.



### Notes:

Any number of digits can be used for this activity although it is best to limit the digits to the number of students in the team or a multiple of this number. Alternatively each student could record their own 2 x 3 digit numbers and work individually rather than in teams.



### Additional Maths Outcomes Covered:

Whole Numbers - Applies place value to order and represent numbers of up to five digits to find the larger and smaller number.



### PD/H/PE Outcomes Covered:

Communicating – Uses a variety of ways to communicate with and within a group.

Decision Making - Makes decisions as an individual and as a group member.

Interacting - Makes positive contributions in group activities.

Moving/FMS – Displays a focus on quality of the chosen movement skills.





# MATHS 'N' MOVEMENT



1	2
3	4
5	6
7	8
9	0

Whole Number

Addition

Subtraction

Multiplication  
& Division

Fractions &  
Decimals

Chance

Patterns &  
Algebra

Data

Length

Area

Volume  
& Capacity

Mass

Time

3D Space

2D Space

Angles

Position



# MATHS 'N' MOVEMENT



Round 1	Student 1	Student 2	Student 3	Student 4
Digit 1				
Digit 2				

Larger Number: \_\_\_\_\_

Smaller Number: \_\_\_\_\_

Round 2	Student 1	Student 2	Student 3	Student 4
Digit 1				
Digit 2				

Larger Number: \_\_\_\_\_

Smaller Number: \_\_\_\_\_

Round 3	Student 1	Student 2	Student 3	Student 4
Digit 1				
Digit 2				

Larger Number: \_\_\_\_\_

Smaller Number: \_\_\_\_\_

Round 4	Student 1	Student 2	Student 3	Student 4
Digit 1				
Digit 2				

Larger Number: \_\_\_\_\_

Smaller Number: \_\_\_\_\_

- Whole Number
- Addition
- Subtraction
- Multiplication & Division
- Fractions & Decimals
- Chance
- Patterns & Algebra
- Data
- Length
- Area
- Volume & Capacity
- Mass
- Time
- 3D Space
- 2D Space
- Angles
- Position



LEVEL

4

Grade 3

## MULTIPLICATION & DIVISION

In this Maths 'N' Movement activity students will use mental and informal written strategies for multiplication and division.

### ACTIVITY

1. In teams of 4 or 5, students line up at least 5 metres from their team's regular and decahedron (10 sided) die and their Multiplication & Division Recording Sheet.
2. The first student in each team races, using the given movement, to roll both their team's dice.
3. The student records the 2 numbers on their team's Multiplication & Division Recording Sheet, the number created when the 2 numbers are multiplied together and all the factors of their new number.
4. The first student races back to their team and the remaining students take it in turn to race to roll the dice.



### Equipment Required:

- A 10 sided (decahedron) die per team.
- A regular die per team
- A Multiplication & Division Sheet and pencil per team.



### Notes:

Once students have mastered this activity you may wish to use 2 decahedron dice or have students list all the numbers up to 50 which have the numbers rolled as one of their factors.



### Additional Maths Outcomes Covered:

Working Mathematically - Uses appropriate symbols to represent mathematical ideas.

Whole Numbers - Reads and represents numbers of up to five digits.

Patterns - Identifies number patterns when finding factors.

3D Space - Names three-dimensional objects with 6 square sides (cube) and 10 sides (decahedron).



### PD/H/PE Outcomes Covered:

Active Lifestyle - Discusses the relationship between regular physical activity and health.

Communicating - Uses a variety of ways to communicate with and within a group.

Interacting - Makes positive contributions in group activities.

Moving/FMS - Displays a focus on quality of the chosen movement skills.



# MATHS 'N' MOVEMENT



- Whole Number
- Addition
- Subtraction
- Multiplication & Division
- Fractions & Decimals
- Chance
- Patterns & Algebra
- Data
- Length
- Area
- Volume & Capacity
- Mass
- Time
- 3D Space
- 2D Space
- Angles
- Position

Round 1	1st Number Rolled	2nd Number Rolled	Multiplication	Other Factors
1				
2				
3				
4				
5				

Round 2	1st Number Rolled	2nd Number Rolled	Multiplication	Other Factors
1				
2				
3				
4				
5				



LEVEL

4

Grade 3

## FRACTIONS & DECIMALS

In this Maths 'N' Movement activity students will represent, model and compare commonly used fractions and decimals.

### ACTIVITY

1. When students hear the whistle they count how many vertical jumps they can complete before the whistle is heard again 15 seconds later.
2. Students record their results on their pairs Fraction & Decimal Recording Sheet and then double their results to find their expected number of jumps in 30 seconds.
3. Students listen for the dual whistles to count how many vertical jumps they can complete in 30 seconds.
4. Students double their 30 seconds results and quadruple their original 15 second results to find their expected number of jumps in 60 seconds.
5. Students vertical jump for 1 minute to see if they did jump  $\frac{1}{4}$  the number of jumps in  $\frac{1}{4}$  the time and  $\frac{1}{2}$  the number of jumps in  $\frac{1}{2}$  the time.



### Equipment Required:

- A stop watch.
- A whistle.
- A Fraction & Decimal Recording Sheet and pencil per pair of students.



### Notes:

Although vertical jumps are suggested any Fundamental Movement Skill could be used such as hops, leaps or sprint runs over a set distance.



### Additional Maths Outcomes Covered:

Working Mathematically - Selects and uses appropriate mental strategies to solve problems.

Whole Number - Reads and represents numbers of up to five digits.

Addition - Uses mental and written strategies for addition to double and quadruple their results.

Multiplication & Division - Uses mental and informal written strategies for multiplication & division to halve and quarter their answers.

Probability - Describes and compares chance events to discuss why their results were the way they were and their expected jumps in 2 minutes and 5 minutes.

Time - Understands the relationship between 15, 30 and 60 seconds.



### PD/H/PE Outcomes Covered:

Moving/FMS - Displays a focus on quality of static jumping.

Problem Solving - Uses a range of problem solving strategies to calculate the number of jumps in one minute.



# MATHS 'N' MOVEMENT



## FRACTIONS & DECIMALS RECORDING SHEET

Student 1: \_\_\_\_\_

Jumps in 15 Seconds.	
Expected Jumps in 30 Seconds (Based on the number of jumps completed in 15 seconds - $15 \text{ seconds} \times 2$ ).	
Actual Jumps in 30 Seconds.	
Expected Jumps in 1 Minute (Based on the number of jumps completed in 15 seconds - $15 \text{ seconds} \times 4$ ).	
Expected Jumps in 1 Minute (Based on the number of jumps completed in 30 seconds - $30 \text{ seconds} \times 2$ ).	
Actual Jumps in 1 minute.	

Student 2: \_\_\_\_\_

Jumps in 15 Seconds.	
Expected Jumps in 30 Seconds (Based on the number of jumps completed in 15 seconds - $15 \text{ seconds} \times 2$ ).	
Actual Jumps in 30 Seconds.	
Expected Jumps in 1 Minute (Based on the number of jumps completed in 15 seconds - $15 \text{ seconds} \times 4$ ).	
Expected Jumps in 1 Minute (Based on the number of jumps completed in 30 seconds - $30 \text{ seconds} \times 2$ ).	
Actual Jumps in 1 minute.	

Whole Number

Addition

Subtraction

Multiplication & Division

Fractions & Decimals

Chance

Patterns & Algebra

Data

Length

Area

Volume & Capacity

Mass

Time

3D Space

2D Space

Angles

Position



LEVEL

4

Grade 3

## CHANCE

In this Maths 'N' Movement activity students will describe and compare chance events in social and experimental contexts.

### ACTIVITY

1. In teams of up to 4, students stand at least 5 metres from their team's coin.
2. Each student predicts on their team's Chance Recording Sheet whether they expect to toss a head or tail.
3. Student take it in turns to race, using the given movement, the 5 metres to their team's coin and toss it to see if they get heads or tails.
4. Students return to their team and record their actual result on their team's Chance Recording Sheet . Remaining students take it in turn to race, toss the coin and record their results.
5. Each team member takes it is turns to toss the coin 5 times to create enough data for student's to compare results.



### Equipment Required:

- A regular coin per team.
- A Probability Record Sheet and pencil per team.



### Notes:

Although a coin is suggested for this activity a yellow/red disc could be used or any counter with one side marked and the other unmarked. This topic can lead nicely into conversations about sportsmanship and that winning is not everything especially in a game of chance.



### Additional Maths Outcomes Covered:

Working Mathematically - Uses appropriate terminology to describe mathematical ideas.

Working Mathematically - Checks the accuracy of a statement and explains the reasoning used.

Fractions & Decimals - Represents, models and compares commonly used fractions & decimals if they find the percentage of their predictions which were

Data - Collects data and constructs data tables of the results.



### PD/H/PE Outcomes Covered:

Communicating – Uses a variety of ways to communicate with and within a group.

Moving/FMS – Displays a focus on quality of the chosen movement skills.

Problem Solving – Uses a range of problem solving strategies.





# MATHS 'N' MOVEMENT



Whole Number

Addition

Subtraction

Multiplication & Division

Fractions & Decimals

Chance

Patterns & Algebra

Data

Length

Area

Volume & Capacity

Mass

Time

3D Space

2D Space

Angles

Position

Round 1	Circle your choice of Heads or Tails	
	Prediction	Result
Student 1 _____	Heads / Tails	Heads / Tails
Student 2 _____	Heads / Tails	Heads / Tails
Student 3 _____	Heads / Tails	Heads / Tails
Student 4 _____	Heads / Tails	Heads / Tails

Round 2	Circle your choice of Heads or Tails	
	Prediction	Result
Student 1 _____	Heads / Tails	Heads / Tails
Student 2 _____	Heads / Tails	Heads / Tails
Student 3 _____	Heads / Tails	Heads / Tails
Student 4 _____	Heads / Tails	Heads / Tails

Round 3	Circle your choice of Heads or Tails	
	Prediction	Result
Student 1 _____	Heads / Tails	Heads / Tails
Student 2 _____	Heads / Tails	Heads / Tails
Student 3 _____	Heads / Tails	Heads / Tails
Student 4 _____	Heads / Tails	Heads / Tails

Round 4	Circle your choice of Heads or Tails	
	Prediction	Result
Student 1 _____	Heads / Tails	Heads / Tails
Student 2 _____	Heads / Tails	Heads / Tails
Student 3 _____	Heads / Tails	Heads / Tails
Student 4 _____	Heads / Tails	Heads / Tails

Round 5	Circle your choice of Heads or Tails	
	Prediction	Result
Student 1 _____	Heads / Tails	Heads / Tails
Student 2 _____	Heads / Tails	Heads / Tails
Student 3 _____	Heads / Tails	Heads / Tails
Student 4 _____	Heads / Tails	Heads / Tails



LEVEL

4

Grade 3

## PATTERNS & ALGEBRA

In this Maths 'N' Movement activity students will generate number patterns and complete simple number sentences by calculating missing values.

### ACTIVITY

1. In 4 teams labelled hearts, diamonds, clubs and spades students sit 5 metres from their pile of playing cards which have been separated to match their team's name and into a pile A to 4 and 5 to 10.
2. The first student in each team races, using the given movement, to their team's 2 piles of cards and draws a card from each pile.
3. The larger number is placed in the marked box on their Patterns & Algebra Recording Sheet and the smaller number in the other marked box .
4. The first student must fill in the missing number to make the number sentence correct.
5. When correct the first student returns to their team and remaining students take it in turn to race to collect cards and record numbers.



### Equipment Required:

- A pack of cards split into 4 suits and separated into A- 4 & 5-10.
- A Patterns & Algebra Recording Sheet and pencil per team.



### Notes:

Although playing cards have been suggested the Subtraction Number Cards could be used for this activity or you could make your own cards which go much higher depending on the student's ability level and the number of times this activity is repeated.



### Additional Maths Outcomes Covered:

Working Mathematically - Selects and uses appropriate mental or written strategies to solve problems.

Working Mathematically - Checks the accuracy of a statement and explains the reasoning used.

Addition - Uses mental and written strategies for addition when this is used for the number sentence.

Subtraction - Uses mental and written strategies for subtraction when this is used in the number sentence.



### PD/H/PE Outcomes Covered:

Interacting - Makes positive contributions in group activities.

Moving/FMS – Displays a focus on quality of the chosen movement skills.

Problem Solving – Uses a range of problem solving strategies.

Whole Number

Addition

Subtraction

Multiplication & Division

Fractions & Decimals

Chance

Patterns & Algebra

Data

Length

Area

Volume & Capacity

Mass

Time

3D Space

2D Space

Angles

Position



# MATHS 'N' MOVEMENT

## PATTERNS & ALGEBRA RECORDING SHEET

Whole Number

Addition

Subtraction

Multiplication & Division

Fractions & Decimals

Chance

Patterns & Algebra

Data

Length

Area

Volume & Capacity

Mass

Time

3D Space

2D Space

Angles

Position

Student 1: \_\_\_\_\_

Large Number

-

?

=

Small Number

Therefore ? = \_\_\_\_\_

Student 2: \_\_\_\_\_

Large Number

-

?

=

Small Number

Therefore ? = \_\_\_\_\_

Student 3: \_\_\_\_\_

Large Number

-

?

=

Small Number

Therefore ? = \_\_\_\_\_

Student 4: \_\_\_\_\_

Large Number

-

?

=

Small Number

Therefore ? = \_\_\_\_\_

Student 5: \_\_\_\_\_

Large Number

-

?

=

Small Number

Therefore ? = \_\_\_\_\_



LEVEL

4

Grade 3

## DATA

In this Maths 'N' Movement activity students will collect data and construct, compare, interpret and evaluate data in displays including tables and column graphs.

### ACTIVITY

1. In pairs, students count the number of times their partner can bounce and catch a basketball off a wall in 60 seconds.
2. When students hear the whistle one student in each team starts bouncing the ball while the other starts tallying the bounces. When the whistle sounds again after 60 seconds the students swap rolls.
3. The activity is repeated until every student has bounced the ball and tallied throws.
4. Students count the tally marks their partner recorded and complete their Data Recording Sheet each day for 2 weeks to see if their ball handling skills are improving or they are getting quicker at bouncing and catching.



### Equipment Required:

- A stop watch and whistle.
- A basketball per pair.
- A brick wall
- A Data Recording Sheet and pencil per pair.



### Notes:

If you do not have enough basketballs students can be in larger groups and can count the number of times they can hop, skip or jump in 60 seconds when they are not bouncing the ball or tallying the results. Students may need to use the back of their Recording Sheet for tallying if there is not enough space on the front.



### Additional Maths Outcomes Covered:

Working Mathematically - Reads and represents numbers of up to five digits.

Addition - Uses mental and written strategies for addition if adding up their pair score or the whole class' score.

Time – Understands what 30 seconds feels like.



### PD/H/PE Outcomes Covered:

Communicating – Uses a variety of ways to communicate with and within a group.

Moving/FMS – Displays a focus on quality of throwing and catching.

Games & Sport – Uses equipment in a variety of games and modified sports.



# MATHS 'N' MOVEMENT



## DATA RECORDING SHEET

Days/Tally Score	Day 1	Day 2	Day 3	Day 4	Day 5
Student 1: _____					
Student 2: _____					

X		Number of Bounces Vs Days of Recording									
60											
59											
58											
57											
56											
55											
54											
52											
53											
52											
51											
50											
49											
48											
47											
46											
45											
44											
43											
42											
41											
40											
39											
38											
37											
36											
35											
34											
33											
32											
31											
30											
	Student 1	Student 2	Student 1	Student 2	Student 1	Student 2	Student 1	Student 2	Student 1	Student 2	
X	Day 1		Day 2		Day 3		Day 4		Day 5		

- Whole Number
- Addition
- Subtraction
- Multiplication & Division
- Fractions & Decimals
- Chance
- Patterns & Algebra
- Data
- Length
- Area
- Volume & Capacity
- Mass
- Time
- 3D Space
- 2D Space
- Angles
- Position



LEVEL

4

Grade 3

## LENGTH

In this Maths 'N' Movement activity students will measure, record, compare and estimate lengths and distances in metres, centimetres and millimetres.

### ACTIVITY

1. Students form a line facing a limbo pole held by 2 students at 1.5 metres high.
2. Students predict on their Length Recording Sheet each of their class member's lowest limbo heights 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 Length 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.



### Additional Maths Outcomes Covered:

Working Mathematically - Communicating - Uses appropriate terminology to describe mathematical ideas.

Addition - Uses mental and written strategies for addition if multiple limbo heights are added together.

Subtraction - Uses mental and written strategies for subtraction to find the difference between the highest and lowest heights.

Data - Collects data and constructs data tables of the results.



### PD/H/PE Outcomes Covered:

Active Lifestyle - Discusses the relationship between regular physical activity and health.

Communicating - Uses a variety of ways to communicate with and within a group.

Moving/FMS - Displays a focus on quality of the chosen movement skills for moving around the circle and back to the limbo pole.



# MATHS 'N' MOVEMENT



- Whole Number
- Addition
- Subtraction
- Multiplication & Division
- Fractions & Decimals
- Chance
- Patterns & Algebra
- Data
- Length
- Area
- Volume & Capacity
- Mass
- Time
- 3D Space
- 2D Space
- Angles
- Position

## 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

4

Grade 3

## AREA

In this Maths 'N' Movement activity students will measure, record, compare and estimate areas using square centimetres and square metres.

### ACTIVITY

1. In pairs, students predict on their Area Recording Sheet the area of pieces of classroom furniture and work items in  $\text{cm}^2$ .
2. Using a ruler students work together to measure the perimeter of each item they chose and calculate its actual area.
3. Students use their predicted area and measured area to find the difference between their estimations and the actual item's size.



### Equipment Required:

- General classroom items ie. chair, table, textbook, ruler etc.
- An Area Recording Sheet and pencil per pair.



### Notes:

Students may need a set of suggested items to measure such as a textbook, eraser, desk etc. The more spaced out the items the more students will be moving during this activity. There is enough space for each pair to predict and measure 10 items on their Area Recording Sheet. Each pair's estimations should become closer to the actual item's size as they progress through this task.



### Additional Maths Outcomes Covered:

Working Mathematically - Communicating - Uses appropriate terminology to describe mathematical ideas.

Whole Number - Applies place value to order, read and represent numbers of up to five digits.

Addition - Uses mental and written strategies for addition to find the length of the objects perimeter.

Subtraction - Uses mental and written strategies for subtraction to find the difference between their estimated and actual area.

Length - Measures, records, compares and estimates lengths, distances and perimeters in metres, centimetres and millimetres.



### PD/H/PE Outcomes Covered:

Communicating – Uses a variety of ways to communicate with and within a group.

Decision Making - Makes decisions as an individual and as a group member.

Interacting - Makes positive contributions in group activities.



# MATHS 'N' MOVEMENT



Item Being Measured	Estimated Area	Actual Length	Actual Width	Actual Area	Difference Between Estimated & Actual Area

- Whole Number
- Addition
- Subtraction
- Multiplication & Division
- Fractions & Decimals
- Chance
- Patterns & Algebra
- Data
- Length
- Area
- Volume & Capacity
- Mass
- Time
- 3D Space
- 2D Space
- Angles
- Position



LEVEL

4

Grade 3

## VOLUME & CAPACITY

In this Maths 'N' Movement activity students will measure, record, compare and estimate volumes and capacities using millilitres and cubic centimetres.

### ACTIVITY

1. In teams of 5, students are shown a selection of items such as an egg cup, mug and take-away container and must predict on their Volume & Capacity Recording Sheet how many full or partially full 1 cup measuring cups of water it will take to fill each container to capacity.

2. Students take it in turns to sprint run cups of water from the bucket 5 metres away to the container being filled which is held by one of their team mates.

3. Students discuss why a standard cup measure is required and why teams achieve varying results for this activity.



### Equipment Required:

- A bucket of water.
- 4 containers per team.
- A measuring cup per team.
- A Volume & Capacity Recording Sheet and pencil per team.



### Notes:

This activity could be converted to measure cubic centimetres if unifix cubes of 1 cm<sup>3</sup> were used instead of water to measure the capacity of each of the 4 containers.



### Additional Maths Outcomes Covered:

Working Mathematically - Communicating - Uses appropriate terminology to describe mathematical ideas.

Addition - Uses mental and written strategies for addition to find the number of cups for each container.



### PD/H/PE Outcomes Covered:

Active Lifestyle - Discusses the relationship between regular physical activity and health.

Communicating - Uses a variety of ways to communicate with and within a group.

Interacting - Makes positive contributions in group activities.

Moving/FMS - Displays a focus on quality of their sprint running.

Whole Number

Addition

Subtraction

Multiplication & Division

Fractions & Decimals

Chance

Patterns & Algebra

Data

Length

Area

Volume & Capacity

Mass

Time

3D Space

2D Space

Angles

Position



# MATHS 'N' MOVEMENT



## VOLUME & CAPACITY RECORDING SHEET

Student 1:	Predicted number of cups required to fill each container	Actual number of cups required to fill each container
Container 1		
Container 2		
Container 3		
Container 4		

Student 2:	Predicted number of cups required to fill each container	Actual number of cups required to fill each container
Container 1		
Container 2		
Container 3		
Container 4		

Student 3:	Predicted number of cups required to fill each container	Actual number of cups required to fill each container
Container 1		
Container 2		
Container 3		
Container 4		

Student 4:	Predicted number of cups required to fill each container	Actual number of cups required to fill each container
Container 1		
Container 2		
Container 3		
Container 4		

Student 5:	Predicted number of cups required to fill each container	Actual number of cups required to fill each container
Container 1		
Container 2		
Container 3		
Container 4		

- Whole Number
- Addition
- Subtraction
- Multiplication & Division
- Fractions & Decimals
- Chance
- Patterns & Algebra
- Data
- Length
- Area
- Volume & Capacity
- Mass
- Time
- 3D Space
- 2D Space
- Angles
- Position



LEVEL

4

Grade 3

## MASS

In this Maths 'N' Movement activity students will measure, record, compare and estimate the mass of object using kilograms and grams.

### ACTIVITY

1. In teams of 5, students are given 5 food items such as a packet of crisps, a piece of fruit, a sandwich, a sweet biscuit and a carrot.
2. Students predict the weight of the 5 items in grams from heaviest to lightest and record it on their Mass Recording Sheet.
3. Students race, using the given movement, to take 1 item at a time to the scales 5 metres away and weigh it.
4. Students return to their team and each member records the weight of the item.
5. Students check their ordering and the difference between their prediction and the actual weight of each item.



### Equipment Required:

- A selection of 5 foods items per team.
- A set of scales per team.
- A Mass Recording Sheet and pencil per student.



### Notes:

This is a great activity to start a conversation on healthy lunches versus unhealthy lunches and that the higher the water, the lower the sugar, fat and salt content of foods the better they are for you and the weight an item has little bearing on its nutritional content.



### Additional Maths Outcomes Covered:

Working Mathematically - Communicating - Uses appropriate terminology to describe mathematical ideas.

Working Mathematically - Problem Solving - Selects and uses appropriate mental or written strategies to solve problems.

Subtraction - Uses mental and written strategies for subtraction to find the difference between the estimated and actual weight of each item.



### PD/H/PE Outcomes Covered:

Active Lifestyle - Discusses the relationship between regular physical activity and health.

Communicating – Uses a variety of ways to communicate with and within a group.

Moving/FMS – Displays a focus on quality of the chosen movement skills.

Personal Health Choices – Even though people talk about “putting on weigh” does a healthy food item weigh more or less than an unhealthy one?



# MATHS 'N' MOVEMENT



	Item Being Weighed	Predicted Weight	Actual Weight	Difference Between Predicted and Actual Weights
Item 1				
Item 2				
Item 3				
Item 4				
Item 5				

- Whole Number
- Addition
- Subtraction
- Multiplication & Division
- Fractions & Decimals
- Chance
- Patterns & Algebra
- Data
- Length
- Area
- Volume & Capacity
- Mass
- Time
- 3D Space
- 2D Space
- Angles
- Position



LEVEL

4

Grade 3

## TIME

In this Maths 'N' Movement activity students will read and record time in one-minute intervals and convert between hours, minutes and seconds.

### ACTIVITY

1. Students find their own space where they can perform burpees without hitting or kicking another student.
2. When students here the whistle they start completing 10 burpees (squat, put body into push up position, squat, jump up) as quickly as they can.
3. As each student is finished they yell "done" and their time in minutes and seconds is called for them to record on their shared Time Recording Sheet.
4. Students repeat this activity once a day for 2 weeks to see if they can reduce the time it takes for them to complete their 10 burpees.



### Equipment Required:

- A stop watch.
- A whistle.
- A Time Recording Sheet per pair.



### Notes:

Burpees are not a Fundamental Movement Skill but they are suggested for this activity as they are the only equipment-free exercise that works a student's entire body and provides a great cardiovascular workout. Students should be able to see a clear improvement in their ability over the 2 weeks using this movement.



### Additional Maths Outcomes Covered:

Working Mathematically - Communicating - Uses appropriate terminology to describe mathematical ideas.

Fractions & Decimals - Represents, models and compares commonly used fractions & decimals to find out how much of a minute it takes to complete 10 burpees and how many they would complete in one minute.



### PD/H/PE Outcomes Covered:

Active Lifestyle - Discusses the relationship between regular physical activity and health.

Moving/FMS - Displays a focus on quality of movement when performing burpees.

Whole Number

Addition

Subtraction

Multiplication & Division

Fractions & Decimals

Chance

Patterns & Algebra

Data

Length

Area

Volume & Capacity

Mass

Time

3D Space

2D Space

Angles

Position





# MATHS 'N' MOVEMENT



Whole Number

Addition

Subtraction

Multiplication & Division

Fractions & Decimals

Chance

Patterns & Algebra

Data

Length

Area

Volume & Capacity

Mass

Time

3D Space

2D Space

Angles

Position

Student 1: _____	Time in Seconds	Time in Minutes & Seconds
Day 1		
Day 2		
Day 3		
Day 4		
Day 5		
Day 6		
Day 7		
Day 8		
Day 9		
Day 10		

Student 2: _____	Time in Seconds	Time in Minutes & Seconds
Day 1		
Day 2		
Day 3		
Day 4		
Day 5		
Day 6		
Day 7		
Day 8		
Day 9		
Day 10		



LEVEL

4

Grade 3

## 3D SPACE

In this Maths 'N' Movement activity students will sketch, name and describe the features of 3 Dimensional objects, including prisms, pyramids, cylinders, cones and spheres.

### ACTIVITY

1. In pairs, students sit with their 3D Shape on the ground with their feet touching arms length from the pair next to them so that all the student's feet form a straight line and there is about 2 feet on the ground between each pair of students.
2. When a particular shape is described or called by name the pair with that shape jump up, carefully step over their classmates legs (not on them) to the top of the column of students and race, using the given movement, around the outside of the class to continue stepping over students legs from the bottom of the column to be the first in their pair sitting back in their spot.
3. The first student in the pair back in their seat scores a point for their side or team.



Equipment Required:

- A 3D Space Shape Card per pair.



Notes:

For this activity the name of the shape can be called, a picture of the shape can be shown, a 3D model of the shape could be shown or the shapes attributes could be described such as has 6 faces. As this describes more than 1 x 3D shape multiple pairs could race at the same time.



Additional Maths Outcomes Covered:

Working Mathematically - Communicating - Uses appropriate terminology to describe mathematical ideas.

Addition - Uses mental strategies for addition if descriptions such as - 3 faces more than a cone, are used.

Subtraction - Uses mental strategies for subtraction if descriptions such as - 3 faces less than a cube are used.



PD/H/PE Outcomes Covered:

Moving/FMS – Displays a focus on quality of the chosen movement skills.

Problem Solving – Uses a range of problem solving strategies to identify the shape being described.

Safe Living – Discusses how safe practices promote personal wellbeing when stepping over other student's legs.

Whole Number

Addition

Subtraction

Multiplication & Division

Fractions & Decimals

Chance

Patterns & Algebra

Data

Length

Area

Volume & Capacity

Mass

Time

3D Space

2D Space

Angles

Position



# MATHS 'N' MOVEMENT



- Whole Number
- Addition
- Subtraction
- Multiplication & Division
- Fractions & Decimals
- Chance
- Patterns & Algebra
- Data
- Length
- Area
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- Mass
- Time
- 3D Space
- 2D Space
- Angles
- Position

Rectangular Prism

Square Based Pyramid

Cylinder

Cone

Sphere

Triangular Pyramid

Triangular Prism

Hexagonal Prism

Pentagonal Prism

Cube



LEVEL

4

Grade 3

## 2D SPACE

In this Maths 'N' Movement activity students will describe, manipulate, identify and sketch 2 Dimensional shapes including special quadrilaterals.

### ACTIVITY

1. As a whole class students are shown one or more of the 2D Space Shape Cards.
2. As a class students call out the name of the shape and how many sides it has.
3. Students perform vertical jumps, leaps, hops or burpees to match the number of sides of the shape shown.
4. If 2 shapes are shown students must call out both shapes, add the sides, call out the total number of sides and perform that many of the given movement.



### Equipment Required:

- A copy of the 2D Space Shape Cards



### Notes:

Although 16 different shapes have been provided these do not all need to be used within the one game. As this is a great cold weather start of the day activity it is good to warm students up and may be played several times throughout winter with different shapes used each time.



### Additional Maths Outcomes Covered:

**Addition** - Uses mental strategies for addition to add the sides of 2 shapes.

**Subtraction** - Uses mental strategies for subtraction if the difference between 2 shapes is found before moving that many times.



### PD/H/PE Outcomes Covered:

**Active Lifestyle** - Discusses the relationship between regular physical activity and health.

**Moving/FMS** - Displays a focus on quality of the chosen movement skills.

Whole Number

Addition

Subtraction

Multiplication & Division

Fractions & Decimals

Chance

Patterns & Algebra

Data

Length

Area

Volume & Capacity

Mass

Time

3D Space

2D Space

Angles

Position



# MATHS 'N' MOVEMENT



## 2D SPACE SHAPES

Hexagon	Parallelogram	Circle
Heptagon	Rhombus	Square
Octagon	Triangle	Rectangle
Quadrilateral	Pentagon	Trapezium

Whole Number

Addition

Subtraction

Multiplication  
& Division

Fractions &  
Decimals

Chance

Patterns &  
Algebra

Data

Length

Area

Volume  
& Capacity

Mass

Time

3D Space

2D Space

Angles

Position



LEVEL

4

Grade 3

## ANGLES

In this Maths 'N' Movement activity students will identify, describe, compare and classify angles.

### ACTIVITY

1. Within a given area of the school, students choose 5 angles which they think are acute, 5 angles which they think are obtuse and 5 angles which they think are right angles.
2. Using the angles at the bottom of their Angles Recording Sheet, students move to each angle selected to check to see if they are correct.
3. Students score 3 points for a correct answer and add up their points to see how many points they scored for the activity and how accurate they were in their estimating skills.



### Equipment Required:

- An Angles Recording Sheet and pencil per student.



### Notes:

Students will need to be given an area where there are more than just right angles to complete this task. An area with trees or play equipment would be good as these can contain many unusual angles.



### Additional Maths Outcomes Covered:

Working Mathematically - Communicating - Uses appropriate symbols to represent mathematical ideas.

Addition - Uses mental and written strategies for addition to find their final score.



### PD/H/PE Outcomes Covered:

Decision Making - Makes decisions as an individual and as a group member.

Moving/FMS – Displays a focus on quality of the chosen movement

Problem Solving – Uses a range of problem solving strategies.



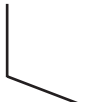


# MATHS 'N' MOVEMENT



## ANGLES RECORDING SHEET

Where the angle being used is located.	Circle Your Prediction	Were you correct	Score 3 for each correct answer
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Acute / 90° / Obtuse	<input type="checkbox"/> Yes <input type="checkbox"/> No	

Acute Angle	90° Angle	Obtuse Angle
 <p>Less than 90°</p>		 <p>More than 90°</p>

- Whole Number
- Addition
- Subtraction
- Multiplication & Division
- Fractions & Decimals
- Chance
- Patterns & Algebra
- Data
- Length
- Area
- Volume & Capacity
- Mass
- Time
- 3D Space
- 2D Space
- Angles
- Position





LEVEL

4

Grade 3

## POSITION

In this Maths 'N' Movement activity students will use simple maps and grids to represent position and follow routes including using compass directions.

### ACTIVITY

1. Students are given a copy of a map of their school showing the main buildings and classrooms, playground, hall and amenity buildings.
2. Students use the map to give directions from their classroom to a destination in the school such as the school library.
3. Student swap their directions with a partner to see if their partner can find the location to which the directions lead.



### Equipment Required:

- A school map per pair.
- A Position Recording Sheet and pencil per student.



### Notes:

Schools should have a school map as part of their evacuations policy but if your school does not this would be a great opportunity for your students to attempt to construct one. It is also a good opportunity for students to map out the shortest route to the designated evacuation point in the case of an emergency.



### Additional Maths Outcomes Covered:

Working Mathematically - Communicating - Uses appropriate terminology to represent mathematical ideas.

Data - Selects appropriate methods to construct data tables.

Length - Measures and estimates distances to create accurate instructions.

Angles - Describes angles to provide accurate instructions for turning.



### PD/H/PE Outcomes Covered:

Active Lifestyle - Discusses the relationship between regular physical activity and health.

Communicating - Uses a variety of ways to communicate with peers.

Problem Solving - Uses a range of problem solving strategies.



# MATHS 'N' MOVEMENT



- Whole Number
- Addition
- Subtraction
- Multiplication & Division
- Fractions & Decimals
- Chance
- Patterns & Algebra
- Data
- Length
- Area
- Volume & Capacity
- Mass
- Time
- 3D Space
- 2D Space
- Angles
- Position

**Student 1** \_\_\_\_\_ **'s Directions**

**Fold To Hide Final Location**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

**Final Destination (to be filled in by your partner):** \_\_\_\_\_

**Student 2** \_\_\_\_\_ **'s Directions**

**Fold To Hide Final Location**

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

**Final Destination (to be filled in by your partner):** \_\_\_\_\_

