Play & Learn

How to foster specific academic learning by using movement and play

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This manual is like a recipes book: boring to read, funny to put in practice!
Why this Manual?

A proper intellectual development, and more specifically, the possibility of acquiring an academic related knowledge, is an important aspect to consider when searching for the best ways to guarantee an holistic development of the children by using sport and physical activity as educative tools.

Using games that promote the corporal and spiritual wellbeing of the children, that increase their skills to cooperate and communicate with the others and their ability to prevent diseases, can in fact support the creation of those pre-requisites that are necessary to ensure that the learning process in the school setting can take place efficiently.

However this relationship is mostly indirect in nature, since most of the games that belong to these different areas of development are generally not specifically structured to promote any sort of “academic related understanding”.

Sport is good for:

- **BODY HEALTH**
- **SOCIAL Skills**
- **Deal with EMOTIONS**

This situation is somehow different with those games and activities that are specifically structured to develop children’s mental skills such as: remembering, concentrating, planning & organizing, problem solving and creativity.

However using games that can potentially foster some of the general cognitive abilities of the children, doesn’t necessary mean that the new skills acquired are then transferred directly to the comprehension of academic concepts (like for example reading, writing and numeracy skills).

The activities proposed in this manual can be therefore used as an integration for this specific typology of games. In fact if we really want to have an impact on the academic learning component of the kids, the activities and games (and related discussions) that are proposed must be structured in a specific way that has to be very much related to the particular school learning outcome that we want to reinforce by playing.

The following practical proposals, which are easy to understand and implement also by non-specialists, are intended to cover this gap between the intention to foster general cognitive skills and the necessity of adapting some of these games in order to stimulate a specific academic related outcome.
How to use the Manual

The manual is divided in 4 different thematic sections, each one specifically related to an academic outcome.

These Thematic Areas are:

1- Math in Steps
2- ABC Body
3- Move Your English (MYE)
4- Science is a Game

For each main area different sub Key Learnings are distinguished.

WHAT IS IT?

A Key learning is meant to help the leader/teacher to understand and distinguish clearly the academic outcome that is expected from a group of activities.

A Key Learning is in fact composed by some different Activities (Activity n 1, n 2 etc).
Each **Activity** is itself composed by the following descriptive elements:

- **Preparation:** the initial easy and fast steps necessary to get ready for the game.

- **Action:** is the actual execution of the activity, what the teachers have to say and what the kids have to do. Of course it very much related to the key learning of the activity.

- **Watch out:** some suggestions in order to make the activity safer and more effective.

- **Progression and variations:** how to change some rules in order to make the activity more challenging or to add some learning outcomes.

- **Creativity:** some tips to help the students to use their creativity while performing the different activities.

- **Inclusion:** some tips to guarantee that everyone is included in the activities.

- **Insight note:** the neurophysiologic and psychological mechanisms that sustain the academic learning are sometimes difficult to understand. These notes can help you to be more aware of the specific impact that each game can have on the cognitive processes of the kids.

- **Adaptation to other subject:** some games can be easily adapted to different subjects. This section help you to understand how this is possible.

**VERY IMPORTANT**

**Debrief:** in order to reinforce both the academic and non-academic learning proposed during the games, the educator has to present at the end of each session some questions that can help the kids to better understand and interiorize what has been experienced directly by playing.
The symbol “*” represents the beginning (i.e. the first step) of an activity (or its variation).

The “-” symbols instead represent the following steps necessary to complete the description of the activity or of a sub-activity.

If only the symbol “*” is indicated it means that the activity (or its variation) has only one line of description.

Note that: you won’t find any suggestion regarding the age group most appropriate to use these activities with. Generally all the games are appropriate for students in last year of kindergarten and in first and second grade of primary school (from 5 to 7 years old). However since you might work also with illiterate persons, remember that these activities can be proposed to anyone.
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Thematic Area 1

MATH IN STEPS
How to use the body to learn basic Mathematical concepts

The children start to know and think through the perceptions they acquire with their experience.

The logical-mathematical operations come from the body actions in themselves since they are the product of a mental abstraction that starts from the coordination of the actions performed.

is a based on that requires
UNDERSTANDING the NUMBERS→ SYMBOLIZATION PROCESS→ PERCEPTION of QUANTITIES→
with DIRECT EXPERIENCE→ the BODY

Key learnings of this thematic area:

1 Numbers as Symbolic Concepts of Quantity (NQ).
2 Numbers as Graphic Symbols (NG)
3 Calculations (CL)
4 Directions, Distances and Occupation of the Space (S&D)
5 Basic Geometry (GM)
Key Learning 1
Numbers as Symbolic Concepts of Quantity (NQ)

Main Objective: help the students to understand the symbolic meaning of a number and its related quantity.

Activity NQ (1) : HOP & COUNT

Preparation: none.

Action: students have to hop on a leg while counting loudly each jump they're doing.

Watch out: the number of the jumps has to correspond to the number said by the student.

Progression & Variations:

* Instead of jumping let them clap the hands, open and close the eyes, beat the foot on the ground, turn around, bounce a ball on the floor, make sounds with the voice etc.

* Let the children count until 5 by using their hand's fingers. Then ask them to select five other different areas in the body and use them as reference point for the counting (ex. 1 is nose, 2 is eyes, 3 is eyes and nose together, 4 is all the limbs, 5 is the four limbs and the tongue out).

* In pairs, a child repeats one of the actions above but this time it is the partner that has to count.

Inclusion: children on the wheelchair can perform most of the activities with the upper limbs. However if you want to add some extra things you can ask them to do the counting by:

making circles around with the wheelchair;
beating a stick on the wheelchair and produce a sound;
using the arms to rise the buttocks from the chair and then sit down again.

This will give to the impression to the other students that their disable friend can actually do some actions that they can not perform in their “normal” conditions.

Debrief: see NQ (3)
**Activity NQ (2): OBJECTS HUG**

**Preparation:** prepare around the Play Area different groups of objects assembled in different quantities (for example you can prepare: a group with 1 ball, a group with 2 rackets, another group with 3 ropes, 4 pencils and so on).

- Let the children free to move around the Play Area in all the possible directions and in different ways (they can run, they can dance, they can jump etc).

**Action:** when a number is called they have to stop next the group of objects whose quantity corresponds to the number called by the teacher.

- After everyone find the appropriate group ask them to count the objects and start again for another round.

**Progression & Variations:**

*Let the children play a simple chasing game.
- Select some “Chasers” (or “Monster”) that have to try to tag the other students.
- When a number (or more than one) is called the students have to reach the respective group of objects in order to be in the “Safe Area”.
- Who is tagged simply has to stop but then he/she is free to play again the following round.

*Instead of objects, let the children form a group with as many people as the number called. If such group is formed they are in the “Safe Area” and cannot be tagged anymore.

**Watch out:** if the “Play Area” is too small children may step on the objects creating a situation of potential danger.

**Inclusion:** if the “Play Area” is on a concrete ground, also children on wheelchair can easily participate. Regarding how to integrate disable children in chasing games see Inclusion suggestions in the Activity R&W (8).

*Blind* kids instead might find the "Make the group" variation more appropriate since they can touch and therefore to count the other people around.

**Terms:**

**Play Area:** is the operative space where the children perform the activities, it can be an external delimited area, a gym or even a classroom. Any Play Area must have the two following characteristics: safety and clear delimitation.

**Safe Zone:** most of the games proposed in this manual are Chasing Games adapted in various ways. Therefore when referred to Safe Zone, it is an area or an action performed by the children who are escaping that allow them not to be chased anymore.

**Debrief:** see NQ (3)
Activity NQ (3): GROUPS OF NUMBERS

**Preparation:** let the children free to move around the “Play Area” in all the possible directions (they can run, they can dance, they can jump etc).

**Action:** at the signal (whistle, stop of the music, clap hands etc) they have to stop and form pairs.

**Watch out:** if you have a odd number of students be sure that the person left out is not always the same.

**Progression & Variations:**

* Instead of pairs ask to form groups with 3, 5, 10, n. children

* Let them to use both persons and objects to form the groups (if 5 is called they can use 3 children and 2 balls for example).

* Form groups with a number of students greater (or smaller) then a particular given number. (for ex. The teacher calls “8” and the students have to form groups with at least 9 persons).

* Give them a group sorting rule (like for example according the color of the t-shirt, according the number of siblings etc) and let them count how many individuals there are in each group.

**Creativity:** ask them to form these groups in many different ways (by sitting in a circle, on the knees, holding the hands etc).

**Inclusion:** same of Activity NQ (2).

**Insight note:** remember that children acquire their basic learning thorough their direct experience with the environment. The fact that they can physically count the objects (or the persons) around them and assign a particular number to that quantity is a fundamental step in the interpretation of the symbolic meaning of the numbers (which however is a different concept from their graphical representation).
Final Debrief
(Numbers as Quantity NQ(1), NQ(2), NQ(3)):

Reflect:
Was it difficult to count while you were moving?
Was it more difficult to associate a number to a group of objects?
And to count the people around you?

Connect:
Have you ever use your fingers to count?
Why do you think it’s helpful to use part of the body when counting?
Is there any number it’s particularly difficult to remember?
Can you give me some examples when you use numbers in your everyday life?

Apply:
Next time you have to remember a number which strategies can you use?
How can you remember if a number is bigger or smaller than another one?

Connection with History:
Why do you think people invented the numbers?
Do you know that in the past and in different cultures different ways of counting were used?
**Key Learning 2**  **Numbers as Graphic Symbols (NG):**

**Main Objective:** teach the students the correlation between a number and its graphic representation.

**Activities NG (1): BODY NUMBERS**

**Action:** the teacher calls a number and the students have to re create its graphic sign by shaping it with their own body.

**Progression and Variations:**

- Perform the same activity with different starting positions (standing up, lying down on the floor, sitting down, with the eyes closed);

- Form pairs or little group and perform together the number called. All the class together have to form a number (standing up or by lying down on the floor);

- Some students act as ”Writing Leader” and can use and move the other students as they want to form a specific number;

- In pairs, a kid draw with the finger a number on the back (or on the palm of the hand) of a partner who has to guess which number was written down.

- Use a jumping rope, or a string to write different numbers on the floor.

- Use some objects put one after the other to form a number.

**Watch for:** be sure that students don’t copy from each other in forming the signs. Don’t expect them to be perfect in making the numbers. The important thing is the individual internal mental process of representation.

**Creativity:** * Stimulate the students to find many different solutions, the same number can in fact be re-create in different ways, or with different part of the body (for ex. only fingers).

* Stimulate the students to invent and represent with the body other ways to write a number (so they understand that the graphic number is just a conventional sign and different cultures may use different symbols).

**Inclusion:** with blind children you can use a lot of tactical information to make them understand the shape of the numbers. Let them touch some thick plastic numbers and then ask them to reproduce them with their body or ”Magic Brushes (see AG(2)).

Every child can basically re create a letter with the body. A person unable to move legs can use only upper arms or can be asked to be part of a letter compose by a greater group of people.
Activity NG (2): MAGIC BRUSHES (Numbers)

**Hands Painting**  *Let the children close their eyes and imagine that their fingers can paint. Ask them to write in the air some numbers with their special painting fingers;*

**Feet Painting**  *Let the kids imagine that their feet are special brushes full of paint. Ask them to walk or run in the room trying to form with their steps the shape of a particular number.

**Progression & Variations:**

*Ask the kids to group in pairs, one kid repeat the exercise above (Feet Painting) while the partner has to guess which letter has been written.*

*One kid has to write a number on a piece of paper (or on the sand), the partner has to repeat it by using the body or by using the special brushes.*

**Creativity:**  Let them paint both small size and big size numbers (“as big as all the room or so small that can fit on the notebook”).

**Inclusion:** every kid can basically re-create a number with the body. A person unable to move legs can use only upper arms or can be ask to be part of a number compose by a greater group of people. A child on the wheel chair can also be asked to be the “Writing Leader”, he has to re-create with his path a number and the others have to guess it. A blind kid can easily walk around or use magic brushes. In group activities he can be allowed to touch the others in order to better understand their position. A student with learning disability should find this approach more in line with his/her own ways of understanding. An hyperactive kid may find some moment of mental rest while performing the activity with the eyes closed or when asked to be the “Writing Leader”.

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**Debrief NG (1) and NG (2):**

**Reflect**
Was it difficult to re-create the number with your body and with the magic brushes?
How did you have to use your imagination to re-create it?
Was it more difficult to understand when another person was making the number?
Why do you think it is more difficult to understand what the others are doing?

**Connect**
Is there any other moment at school in which you really have to imagine something in your mind if you really want to understand or reproduce it?
Is there any other moment in which you have to be very concentrate on what other people are writing?

**Apply**
In which other subject can you use this imagination strategy?
What can you do next time you don’t understand what other people (or the teacher) is writing?
How can you help some of your school mates to write the numbers properly?
How can you transfer the letters from your magic brush to your notebook?
Activity NG (3): “NUMBERS IN LINE”

Preparation: prepare small pieces of cardboard, each indicating a number.

- Give to each participant a card (the number must be in sequence from 1 to... number of participants). Let them look at the number, then ask them to walk (run or dance) around the room.

Action: at the signal (whistles, send of the music, clapping of hands) have them form a line accordingly the instructions they receive, such as:

- line up numbers from 1 to... n or vice versa (from the highest to the lowest);
- form 2 lines, one with odd numbers the other with even numbers;
- form a line only with the numbers that are dividable by, 3.. 5 etc;

Let them swap the cards randomly and repeat the sequence few times.

Progression & Variations:

* After they have received the card they cannot talk to each other or show the card. Therefore they have to re-create the write line sequence only using non-verbal communication.

* Instead of giving numbers in sequence you can also distributed random numbers (like 2, 6, 13, 17, 54, 77, 112 etc) and ask the participants to follow the same tasks as before.

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Debrief for NG (3):

Reflect:
How did you feel during the game? Were you learning something new? Were you having fun?
How did you have to concentrate on your number in order to do the write sequencing/calculation?

Did you always understand clearly the instructions from the teacher?
Did you feel confused during the game?
How did you feel when you couldn’t talk or show your card to the others?

Connect:
Could you tell me other moments in which you have to be really concentrate in what you are doing?
Or that you have to be really focus on what the other people around you are doing?

Apply:
Next time you have to pay attention to something important, which strategies would you use?
How would you give your contribution next time you have to achieve something with other friends?

Academic related:
When was most difficult to re-create the correct sequence? Why?
Was it more difficult when the numbers were not in a sequence? Why?
How did you feel when you have to do some calculations?
What strategies did you learn today and how would you apply them next time you have to do some calculations?
Activity NG (4): TOUCH THE SEQUENCE

**Preparation:** display on the floor some cardboards indicating a number from 1 to 10 (all the numbers from 1 to 10 must be present).

**Action:** ask the children to run and touch as fast as they can with the hand all the numbers from 1 to 10 with the correct sequence.

Repeat the activity 3 or 4 times for each kid.

**Insight note:** In this way in order to complete the sequence faster children have to remember the position of each number and this mental operation help them to reinforce the so called "Short Term Memory (STM)" (known also as “Working Memory”) which is a fundamental ability used in most of the academic learning.

**Progression/Variations:**

* Touch the numbers from 10 to 1;

* Touch only the odds (or even) numbers;

* Use bigger numbers not necessary in sequence, children have to touch from the lowest to the highest or opposite way around;

* Write each number with a different color. At the end of the touching sequence ask the students if they can remember the respective color of each number (STM).

**Little competition:** Make a child start from the highest number and another from the lowest let them touch the sequence and see who is arriving quicker.

**Inclusion:**

* **Wheelchair:** a kid on a wheelchair just have to pass with the wheels on the cards.
* **Vision Impairment:** write the cards bigger or cut the edge and make them guess by touching.
* **Learning disability:** next to the number put a same number of object that correspond to that number (ex next to number 3 put 3 pencil, next number four put 4 tennis balls and so on...).

**Adaptation with other subjects:**

* **English:** as they touch a number they have to spell it loud in English.
* **Science:** write part of the body, they have to touch the sequence according the position of that part from the highest to the lowest. (Head, shoulder, hip, foot for example)

Spell loud the parts touched in English.

* **Reading/Writing:** see Writing & Reading section.
### Debrief for NG (4):

**Reflect:**
- Did you find difficult to run and think about the next number together? Why?
- Did you find difficult to focus your visual attention while running?

**Connect:**
- When does it happen normally that you have to perform two things together?
- When you do many things together do you do them properly or instead is better do one thing at the time?

**Apply:**
- Next time you have more task to do in the same time how would you focus your attention in order to be successful?
- How can you understand that you are doing too many things together and maybe is better to concentrate on less?

### Debrief ACADEMIC Related:

**Reflect:**
- Was the sequence more difficult from 1 to 10, or the opposite way? Why do you think so?
- After you did one or two times was it easier? Why do you think so?
- Do the counting become easier or more difficult while you are playing?
- Was it difficult to calculate the result of the operation and search for the number spot simultaneously?
- How did you imagine the body when you had to touch them in sequence?

**Connect:**
- Is there other moment in life when you have to keep in your mind for a short time some kind of information?
- Is there other moments in life you have to picture in your mind something is not in front of your eyes?

**Apply:**
- How can you use this temporary memorization to increase your study performance?

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*Students learning letters by playing in Thailand*
**Key Learning 3**

**Calculations (CL)**

**Main Objective:** help the children to become familiar with the basic mental mechanisms involved in simple calculations (additions, subtractions, multiplications and division).

**Activity CL (1): “GROUP ADDITIONS”**

**Note:** This game was proposed by a group of teachers in Krabi (Thailand) after they receive a session regarding the importance of been able to adapt RTP activities to the Academic Curriculum. But it seems that they did even more by adapting an Academic game to the RBP ideals (Blue Ball).

**Preparation:** form groups of 6 people each.
- Let each group sit down in a circle.
- Give to each participant of the group a card that indicates a number (in the beginning from 1 to 6).

**Action:** at the signal, they have to put the cards one above the other in the middle of the circle by keeping a sequential order from 1 to 6.
- When all the cards are in the middle all the groups have to put the hands up (like the team of mechanics that change the tires of a Formula 1 car).
- Prize the group (or the groups) that was faster.

**Progression and Variations:**

* Call a target number (like for ex 13), they have to put in the middle the cards whose addition corresponds to the number called.

* Let the group taking the decision without using the voice. Only gestures.

* Let the group be directed by only one leader at the time (therefore give opportunity to all to make calculations and taking an active leadership role).

* Instead of giving only one card to each participant you can give 5 cards to each one (having therefore cards from 1 to 30);
Then
- Repeat the same instructions as above.

- Praise the groups that used the most number of cards to form the number called (ex. n.23 can be done by using card n.20 + card n.3 but also by using card n.2+ n.3+ n.5+ n.9+ n.4 and so on).

* Instead using addition as sorting role use other operations (multiplications, subtractions etc).

**Insight note:** this last variations is also very important because it also reinforce the ability to switch from a cognitive task to another.
**Inclusion:**

* Have the children blindfolded, mark the number on the card by cutting its edge, so the children have to understand the number by touching it instead of looking at it.

If a have a kid on the *wheelchair*, have all the students sit on chairs and a table in the middle where to put the cards.

Quickly swap the participants in the groups, to let them experience working with other people.

**Adaptation to other subjects:**

*Geography:* instead of number write on the cards a name of a city, or a river. And then ask the students to throw on the floor only the cards with “European cities”, “South Thailand cities”, “Nation were English is spoken” and so on.

*Science:* write on the cards name of animals/plants that then need to be sorted accordingly.

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**Debrief about Social Skills related for CL (1):**

**Reflect:**
- How did you feel when the number to form was called?
- How did you react (did you wait for instructions or you tried to give instructions)?
- What was the most appropriate solution?
- How did you feel when you/or another of the group was forced to be the leader?
- How did the communication with your group improved while you were playing?
- Did you use some strategies to increase your team communication?
- How did you feel when you had to change group? Was it more difficult to communicate with them?

**Connect:**
- In which other situation in life you have to accept to work with the others?
- Have you ever been “forced” to take an active leadership role in a life situation?
- Or to accept a “forced” leadership by another member of your group?
- How did you feel when your decisions didn’t match with those of the leader in charge?

**Apply:**
- How would you resolve a conflicting situation like this that might happen next time you work with other people?
- How would you made people accept you decision if you are sure that this is good for the best of everyone?
- How this game taught you something about the importance of working together and accepting other’s ideas?

**For teachers:**

How do you think you can transfer the learning outcome of this game in another group activity for another subject?

**Debrief Academic related:**

- Why it was so difficult to put numbers in the proper sequence?
- How did you manage to find the correct result to the number called?
- How did you store the numbers and the results in your mind?

- How would you apply this strategy next time you are required to make calculations?
- Somebody can give me a specific example by using some numbers?
Activity CL (2): CROSS THE RIVER

**Preparation:** prepare with the tape or with some ropes 2 parallel lines about 3 meters far from each other.
- Make the students pretend that this two lines form a river which is filled with hungry crocodiles.
- In the middle of the river scatter many bean bags that represent the stones.
- Next to each bean bag write number (from 1 to 10).

**Action:** the children have to cross the river by stepping on the stones.
- However they cannot use all the bean bags but only those that the sum corresponds to the number called by the teacher.
(For example if the number 10 is called they can use only the bean bags with n. 5, n.2 and n.3).

**Progression & Variations:**

* Use different calculation factors (multiplications, subtractions etc).

* Give the children an "Emergency Card Number", that they can use to step on in case of necessity.

* Write numbers with two different colors (Blue and Red).
Blue numbers need to be added while red need to be subtracted.
So if the children have to reach 10 he step on Blue Card 5, Blue Card 8, Red Card 3 (5+8-3=10).

* Have a child directs another.

* Give them time limits.

* Create some jolly-question stones. If the child answer correctly he/she can continue, otherwise falls into the water.

**Creativity:** use also hands to step on the correct stones.

**Adaptation to other subjects:**

**Writing/Reading:** same game can be adapted using letters. The only way to cross the river is to form a word with the letters on the stones.

**Science:** write on the cards (or put pictures) of particular groups of live beings (like animals, plants, mammals, insects, fungus etc). The children can only walk on those stones that have a picture of a: "mammal, of something that can be eaten, of something that lives with in your nation" etc.
**Inclusion:** make a bigger river, create bridges (that can be represented by a tape on the floor) instead of stones. The students have to follow the correct sequence of number in order to cross the river.

*Blind* kids can be helped by a friend that say the numbers and move the foot on the bean bag accordingly but the directions to take and the stones to step on are decided by the disable kid.

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**Debrief for CL (2):**

**Reflect:**
- What did you find difficult in this game?
- What calculations required more effort?
- What could have made cross the river easier?
- What mental strategies did you use to keep in mind constantly the result and update it accordingly?

**Connect:**
- When you have to keep in mind a result for a while and then change it?
- Other things you have to remember for short period and then they disappear?
- Did you use parts of your body to make calculations?
- Why do you think is easier if you use your body?

**Apply:**
- Is there something you have learnt today you can use next time you do math in the classroom?
- How can you use pen and paper to make calculations easier?
- Can you imagine how people use to do calculations in the past?
Key Learning 4
Directions, Distances and Occupation of the Space (S&D)

Main Objective: help the students to become aware of some “Spatial Concepts” (as inside/outside, near/far, up/down) which are fundamental pre requisite for the understanding of Geometry.

Activity S&D (1): “MOVE YOUR BUDDY”

Preparation: ask the students to divide themselves in pairs.
- Have a member of each pair blindfolded.

Action: the child who can see has to help the “blind” partner to move in the room by:
- Giving verbal directions.
- Holding the hand of the partner.
- Giving directions by touching gently the shoulder (DX or SX) of the partner.
- By making a sound (ex clap hands) and let the blind kid follow it.
- By pulling him with a rope or a hoop.

Progression and Variations:
* Have all the children blindfolded.
- Ask them to move slowly and gently around the room.
- Every time they touch a wall or another person they have to change direction.

Watch Out: Security first! Remove all the objects from the floor. Be sure nothing can fall from the wall if touched by the kids. If somebody is too agitated and constantly bumps into the others without sensibility, have him/her directed by someone else.

Be careful! Some students might not feel confident with the touching, in any form. Have them directed orally.

Inclusion: this game is appropriate for blind kids since also the school mates are put in their conditions. One of the objective of the games with a strong Inclusion component is not only to give the same playing opportunities to all but also to show to the other students that disable kids have extra abilities that other normal kids don’t have.

The following exercise can serve as example how to stress this aspect:
* Children are in pairs.
- All of them are blindfolded.
- One kid has to give directions to the partner (verbal or tactile) trying to avoid any contact with the other pairs or with the walls.
In this reverse case the blind kid will definitely have an advantage (due to the over development of other sensorial systems) which will be understand and appreciated by the other students.

**Debrief for S&D (1):**
This activity has a very strong yellow ball component that need to be stressed in the RCA

**Reflect:**
How did you feel when you couldn’t see?
Were you afraid?
How did you feel when another person was helping you?
Could you always understand clearly the directions?

**Connect:**
Have you had any time in your life that you were helped/ or have been helped by others by giving/receiving them important directions or suggestions?

What would happen if you were really blind? Would you accept the help of somebody else?

**Apply:**
If in the future you’ll have a blind friend how would you help him/her?
What other sensorial abilities can develop a blind person a part from the sight?

**Academic related Debrief:**

**Reflect:**
Could you always understand the direction you were going?
Left and right, up and down were still the same for you?

**Connect:**
Why is important in everyday life understand the left/right directions?
When do you use these indications?

**Apply:**
How directions are important when you are writing or making calculations on your notebook?

*a teacher using and Play&Learn games*
**Activity S&D (2): TAKE YOUR POSITION (Space Occupation)**

**Preparation:** prepare a Play Area with clearly marked boundaries (a classroom can be already appropriate, if you are using outside space use rope, tape or objects to delimited the area).

- Let the students free to move in all the possible ways and in all the possible directions within the Play Area.

**Action:** at the signal, students have to find a spot as far as possible from each other and stop in that position. (Trying to use all the space within the Play Area).

**Watch Out:** children are shorter than us, they might not have a clear picture of all the Play Area and how it is properly occupied. Use some easy drawings to show them their positions.

**Progression & Variations:**

* Ask the students to use the less space possible by grouping all together in a part of the Play Area.

* Ask the students to occupy only the external part (Perimeter) of the Play Area.

* Ask the students to perform the same activities but instead on standing up they have to lay down on the floor.

* Even when they are freely moving within the Play Area ask the students to walk always keeping a certain distance from the other mates.

* Put some objects around the room. During the initial part of the activity children have to walk as far as they can from the objects. When they receive the signal instead they have to stop as close as they can to the objects.

  If you want to make this last activity more exiting for the students you can add one or more chasers that have to touch the other students before the group around the objects.
  Or assigned "Bad Smelling points" to those who perform the task slowest.
  Or instead of just moving around have them bounce a bal around the Play Area.

**Creativity:** ensure that the students use different modalities of displacement around the Play Area.

Use the music during the first part of the activities and stop it as signal for the action part.

**Inclusion:** have kids on wheelchairs moved by a friend if necessary but let them give the instructions regarding the directions.

Have a **blind** student helped by others. However when it comes the moment of the academic explanation use a lot of tactile information (on his back, hand etc) to help him understand the differences between Perimeter and Area.
Debrief for S&D (3):

Reflect:

Was more challenging to stay as far as possible from each other or as close as possible?
Was it difficult to use all the space of the Play Area?
Was there any difference in occupying only the external part of the Play Area?
Was it difficult to keep big distance from the objects in the middle of the Play Area?

Connect:

Do you find in this game something similar to other activities we do in the classroom like for example cutting the edges of a figure or fill with color a shape?

Are there other moments during your everyday life in which you keep yourself as far as possible (or as close as possible) from other people?

Apply

Sometimes the Apply part can be a direct explanation of the teacher, we can not expect always answers from students on concepts that might be totally new for them.

“This is a clear example of the distinction between the Perimeter (which is represented by the boundaries of the Play Area, and the Area which was filled by our bodies when we stop as far as we could from each other. Every geometrical shape has a Perimeter and an Area, that can be different and can be calculated (... )”
**Activity S&D (3): MEASURES WITH THE BODY**

**Action:** ask the students to measure their body by using some smaller parts of the body itself as reference measures (ex. How many fingers do you need to cover all your arm?, How many feet can fit in all the leg? And so on).

* They can also measure the body's parts of a partner.

**Watch out:** be touched by other persons may be unpleasant for some kids.

*Ask the students to measure the space around them (the classroom, the gym, the park) by using some parts of their body, like for example:

- How many steps do I need to cover the length of the room?
- How many times the body lied down can be fit in the length of the gym?

**Progression & Variation:**

*Use different parts of the body.

*Measure also vertical distances.

*Compare different measurements to show the students that the value of a length depends from the reference unit measure selected.

* Use different objects instead of body's part to measure distances (ex. "How many ropes can do I need to cover the length of the gym?").

**Inclusion:** Amputees can use their crutch as reference unit measure. Blind kids can easily count part of their body. Have them guided by somebody else while counting with the steps. Wheelchair: Instead of counting the steps ask them to answer the following question: "How many full rotation of the wheel do I need to cover all the length of the gym?"

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**Debrief for S&D (4):**

**Reflect:**
When you measured the same distance with different parts of the body did you find different values? Can you tell me why?
And when you measured different distances with the same part of the body (or the same object)?

**Connect:**
Can you think when in our life we use standard measures? (weight, distances, time)
Which are the measures that are very easy to take?

**Apply:**
Why do you think it is important to have common reference units of measure?
Do you know that other countries use different measures than we do?
Is there a more correct measure to use? Why or Why not?
**Activity S&D (4): THE EXPLORER (Discovering Distances)**

**Preparation:** line up the students (about 2 meters apart from each other) and give a small object to everyone.

- Ask the students to put the object at a certain distance in front of them and then come back to the starting line.

**Action:** when they are back on the line again ask them close the eyes and slowly try to reach their object by walking.

**Progression/Variations:**

*Instead of using the object simply ask them to reach a certain pre-established distance. (In a gym can be for example a line painted on the floor).

*Instead of walking ask them to crawl or rolling with the body.

* Scatter around the Play Area some objects in a random way.
  - Have student crawl around and explore with their hands the objects they find.

*If you are in a big room (like a gym), ask the student to walk around blinded using an object (like a stick or a racket) to explore the ambient around them.

**Watch out:** in all the games with eyes close safety concerns are always more important. Avoid the students to go too fast or bump badly against the other students.

**Debrief:** see activity SD (6)
**Activity S&D (5): “TOSS & GUESS”**

**Preparation:** give to each child a small ball, or any object that can be tossed around in safety.

**Action:** ask them to toss the object according your directions:
Far/Near, Up/Down, Left/Right, Against something, Outside/Inside something.

- Ask them to pick up another random object and follow the following instruction.

**Watch out:** is every one really following the instructions or just tossing the object randomly. Remember that the concepts of far/near are totally subjective and related to the throwing ability of each single kid.

**Creativity:** the object must be thrown every time with a different modality (for example with 2 hands above the head, with the foot, with the head, turning around etc.).

**Inclusion:** have somebody help kids on wheelchair or blind to collect the objects.

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**Debrief for S&D (5) and S&D (6):**

**Reflect:**
Was it difficult to remember the distance from the object in the first game? When you were crawling and looking for the objects, did you find all the objects at the same distance or at different distances?

**Connect:**
Can you tell me when it’s important to measure or to know a distance? Can you tell me some distances that are measure by your doctor on your body?

**Apply:**
How can we measure big or small distances? How can we use these distances to study geometric shapes?
Key Learning 5
Basic Geometry (GM)

Main Objective: become familiar with basic geometry principles, learn the graphical representation of the most common geometrical shapes and how to calculate Area and Perimeter.

Activity GM (1): GEO-BODY-METRY

Action: ask the children to walk in a particular direction that they can choose independently. However the main request is that while moving they can't never to cross each other or walk on a line already walked by another person.

- Use this simple example to explain the concept of parallelism (two lines that never cross each other).

Progression & Variations:

* Ask the students to move their arms parallel each other.

* Let them walk straight for a short distance and try to introduce the concept of the difference between a segment and a line.

* Provide the children with many different objects, especially (dancing wands and ropes) and ask them to create on the floor different shapes as they like.

- Let the children notice that all the shapes have different characteristics (number of sides, dimensions, regularity etc).

Inclusion:

* The understanding of geometry is particularly difficult for blind students. Help them to recognize the shapes of the figures by using a lot of tactile information and object that they can touch that reproduce the shape.

* Make many connections with everyday life objects (like circle as a plate, right-angle like the steps, a cube like a dice and do so on).

Debrief: see activity GM (2)
Activity GM (2): GROUP SHAPE

**Preparation:** have the children free to move in the Play Area.

**Action:** Show them a cardboard with a geometrical shape and ask them to reproduce it by gathering in a big group (they can form the shape by holding hands, by sitting next each other, by lying down on the floor).

- While they are in this position spend some times to ask them some characteristics of the shape they formed (like for example “How many sides does it have”, “how many angles”, “How can we calculate its perimeter?”,”Are there sides with the same length? If yes, have you use the same number of persons to form those two equal sides?” , and so on).

**Watch Out:** are they collaborating while forming the shape? Are they all responding to the questions? (stress this aspect by using a Blue Ball RCA).

**Progression & Variations:**

* Have the students form the big shape by using object instead their bodies as quick as possible. This can be done initially in small groups (3-4 students) and then all the class together.

* Walk the shape by using the feet as paintbrushes, (see Activity AG 2 "Magic brushes").

**Creativity:** Have a students draw (or cut the edge) of a non-conventional geometrical shape and then ask them to reproduce it with their bodies in groups.

**Adaptation to other subjects:**

**Geography:** show the students a map with the shape of their nation (or region, or city) and ask them to reproduce it first with their painting hands (see Activity AG 2) and then with their bodies by gathering all together in a big group.

**Debrief: for GM (1) and GM (2):**

**Reflect:**
Which was the easier shape to recreate with your body or with the objects?
Why did you find it easier/more difficult?
Did you walk inside or outside the shape to form it?

**Connect:**
Can you tell me some objects of everyday use that have a particularly defined shape?

**Apply:**
You can ask some specific questions like:

- How many sides has the ...? And How many angles?
- Why Triangle is called like that?
- Can you tell me a geometrical shape that has parallel sides?
- What is the difference between a square and a rectangle?
- What is a perimeter?
Thematic Area 2

**ABC BODY**

**How to use the body to learn reading and writing**

In the very beginning of the primary school, during grade 1 and grade 2 children have to learn how to spell and write all the letters of the alphabet properly. This is a prerequisite for the learning of more complex abilities such as writing and reading longer words.

When a child learns to associate to a particular graphical sign (like for example "A") a particular sound he/she is assigning a symbolic meaning to that particular written letter.

This ability of symbolization can be made easier and of more direct interpretation if the child can experience with the own body the actual dimension and directions of the different letters.

Therefore by using specific games and activities we can ease the learning process of the students.

Here are listed some examples of "easy to explain" and "easy to perform" activities that are meant to help the students to understand the letters and consequently how to read and write properly.

This activities can also be used inside a normal classroom.

**Note That:** these games are thought to be used with ABC writing system, however the same principles used in the game can be transferred to any other alphabet.

**Key learnings of this thematic area:**

1- Recognize, read and write the letters of the alphabet (LTs)

2- Reading & Writing (R&W)
Key Learning 1
Recognize, read and write the letters of the alphabet (LTs)

Main Objective: help the students to become familiar with the symbolic meaning of the letters of the alphabet, how to reproduce them orally and graphically in the proper way.

Activity LTs (1): BODY LETTERS

Preparation: none

Action: the teacher shows (or utters) a letter and the students have to re create it by using their own body.

Progression & Variations:

* Perform the same activity with different starting positions (standing up, lying down on the floor, being sit, with the eyes closed);
* Use a jumping rope or a twine to write letters on the floor. Another way to form a letter is using many objects and put them one next to the other.
* Form pairs or little groups and ask to perform with the body the letter together. (In this way we also add a Blue Ball component).

Creativity: stimulate the students to find many different solutions, the same word can in fact be re-created in different ways, or with different part of the bodies (for ex. only fingers).

* Invent new symbols to re-create with the body and give them a meaning (like the body language for deaf-mute people).
* All the class together have to form a letter (standing up or by lying down on the floor);
* Some students act as "Writing Leader" and can use and move the other students as they want to form a specific letter.
* Use mirrors.

Inclusion: see inclusion section in the activity NG (1).

Debrief: see Activity LT s (2)
**Activity LTs (2): MAGIC BRUSHES (Letters)**

*Hands Painting*

**Preparation:** ask the children close their eyes and imagine that their fingers can paint.

**Action:** ask them to write in the air some letters with their special fingers;

**Progression & Variations:**

*Write with a chalk (or tape) some words on the floor (Make them big!).
- Ask the children to walk on the lines of the word that has been written.*

*Feet Brushes*

**Preparation:** ask the kids to imagine that their feet are special brushes full of paint.

**Action:** ask them to walk or run in the room trying to form with their steps the shape of a particular letter.

**Progression & Variations:**

* In pairs, one kid repeats the exercise above (*Feet Brushes*) while the partner has to guess which letter has been written.

*In pairs: one kid has to write a letter on a piece of paper (or on the sand), the partner has to repeat it by using his body or by using the special brushes.
- Let them paint both small size and big size words ("as big as all the room or so small that can fit on the notebook").

* Extra Game1: assign to each student a letter (or more then one) then the person whose letter is called has to chase the others.*

*Inclusion:* every kid can basically re create a letter with the body. A person unable to move legs can use only upper arms or can be ask to be part of a letter compose by a greater group of people.
A child on the wheelchair can also be asked to be the “Writing Leader”, he has to re-create with his path a letter and the others have to guess it.
A blind kid can easily walk around or use magic brushes. In group activities he can be allowed to touched the others in order to better understand their position.
A student with learning disability should find this approach more in line with his own ways of understanding.
An **hyperactive** kid may find some moment of mental rest while performing letters with the eyes closed or when asked to be the "Writing Leader".

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**Debrief LT s (1) & (2):**

**Reflect**

Was it difficult to re-create the letter with your body/with the magic brushes?
   - How did you have to use your imagination to re-create it?
Was it more difficult to understand when another person was reproducing the letter?
   - Why do you think is more difficult to understand what the others are doing?

**Connect**

Is there any other moment at school in which you really have to imagine something in your mind if you really want to understand or reproduce it?
Is there any other moment in which you have to be very concentrate on what other people are writing?

**Apply**

In which other subject can you use this imagination strategy?
What can you do next time you don’t understand what other people (or the teacher) is writing?
   - How can you help some of your school mates to write the letters properly?
   - How can you transfer the letters from your magic brush to your notebook?

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“**Close your eyes and imagine that your fingers can paint in the darkness**”
Key Learning 2
Reading and Writing (R&W)

**Insight Note:** After students have properly understood the alphabet, it's now time to introduce them to the reading and the writing of the words. The initial approach is very similar to the previous one used to learn the letters. Children need to be let free to experience with their body the process of putting a letter next to the other to form a word with a certain meaning.

**Main Objective:** Teach to the students how a word is formed by putting a letter next to the other. How to read and write a full word and how to reproduce them properly on the notebook.

**Activity R&W (1): WORDS IN BALANCE**

**Preparation:** Prepare a bench or some obstacles on the floor.

**Action:** Children have to walk in equilibrium on the bench (or on the obstacles) and meanwhile do the spelling of some words (in their mother language or in English).


**Progression & Variations:**

* The word can be spelled from the end. (Step “L”, Step “L”, Step “A”, Step “B”).

* A child is moving in equilibrium on the bench while a partner spells some words that form a word that must be guessed by the person in balance.

* The person in balance can also be blindfolded;

**Adaptation to other subjects:**

* The partner can also ask to calculate some easy math operations, that the child on the bench must resolve (Math).

* The partner can ask some questions related to a subject like: “What is the capital of...”, “What is the process involved in...” (Geography, History, Science).

* While walking on the bench sing a song or keep a rhythm with the hands (Music);

* Names of persons, historical dates, part of the body, rivers of a nation, little poems can be uttered while on balance (Science, Memory).

**Creativity:** Invent as many ways as possible to travel on the bench from one side to the other.
Inclusion: kids on a wheelchair can be asked to perform any other motor action (easy juggling, throwing and receiving balls) while answering to the questions.

Insight Note: even if it is more difficult to execute two tasks simultaneously (motor action and mental elaboration) the extra cognitive effort that the students are required to do might be re-used the following time they have to perform the same cognitive task but without motor component. In few words with this exercise we force the kids to find more mental resources to complete the tasks and these extra cognitive resources may be available and usable again when students will perform mental operations under “normal” conditions.

Debrief
Reflect:
How did you find to do the spelling/operations while walking in balance?
How was your mind more concentrate in performing both operations?
How were you challenged when you had to understand what your partner was saying?

Connect:
Are there any situations in life in which you have to listen at another person and at same time do something else?
How is the communication with the others when you are distracted by other things while they are speaking?

Apply:
How would you concentrate on what you have to say/understand next time you find in a similar situation?
Why do you think in a social contest is important to listen and at the same time be focus on something else?

Academic:
Which strategies did you use to find the results of the calculation while you were concentrate on stay on balance?
Are these strategies different from those you normally use?
Can you apply some of them next time you are doing your homework?
Activity R&W (2) : BODY WORDS

**Action:** The teacher calls a word (like “PLAY”) and the children have to form groups with as many people as the letters of the word called (in this case for PLAY they have to form a group of 4).

- Then each child creates a letter with the body and by creating the proper sequence they have to form the word that was called (one child for a “P”, one the “L” and so on).

**Progression & Variations:**

* Have an extra child directs the operations of formation of the word (“Writing Leader”)

* Give them a certain amount of time.

* Ask them to create a full phrase (like for ex “The Ball is Red”).

* Ask the children to think and form a word which represents an: “Adjective” or a “Personal name” or a “Article” and so on. (for example if the teacher says “adjectives” they have to form groups and create words that can be considered adjectives like nice, cold, blue etc)

**Creativity:** let them create words both on the floor and on a standing position.

* Let them create letters and words by using objects in the gym instead of their bodies.

**Inclusion:**

Children on wheelchair can easily form letters with their body.
More problematic is for a blind kid: they can be asked to be the "Word Sculptor", by moving the parts of the body of their mates (that act as clay statute) in order to form letters and full words.

**Debrief:** see activity R&W 3
Activity R&W (3): MAGIC BRUSHES (Words)

**Action:** repeat the exercise Magic Brushes (LETTERS) but ask the students to complete a full word.

**Insight Note** → don’t expect the students to re-create perfectly all the letters. This is not the objective. The activity is in fact meant to let them to have a mental-graphical representation of the words that need to be written. This cognitive operation is in fact necessary to facilitate the symbolization process that was discussed above.

Let’s think again to the importance of the **Working Memory** also in this simple writing exercise. As the children are writing with their “Feet Brushes” the sequential order of the letters and the letters that have already been written need to be constantly kept in mind and constantly update. This difficult operation is also complicated by the fact that the child is moving in an environment full of other distractions (their movements, the schoolmates moving in the same direction, extra indications from the teacher etc). While using the Working Memory to recreate the correct writing sequence the student has also to pay an extra attention to the writing process.

This extra attention paid can reinforce the learning process in itself that will probably be eased when applied in a simpler environment (on the notebook with the pen).

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**Debrief for Activities R&W (2) and R&W(3):**

**Reflect:**

How did you find to paint a full word with your body?
Was it difficult to remember the sequence of the letters?
Is it easy to re create the word on the floor or by standing up?
Why it is easier when the teacher show you the word to re create?
Why shorter words are easier to write?

**Connect:**

What do you find more difficult when you are writing/reading new words?
When you are reading do you read a letter next to the other or do you have a complete picture of all the word you are reading?
Can you always associate the graphical sign of the word to a particular sound?
Is there any letter is it more difficult to re-create for you? Why do you think so?

**Apply:**

Next time you are writing on your notebook what can you do to put a letter next to the other correctly?
And why do you think is it important to respect the margins and the dimensions of the paper when you are writing?
What can you do to help the others to understand better what you are writing?
Why is important to imagine the letters and the words in your mind before write them down?
Is this process also helpful when you are reading?
**Activity R&W (4): TOUCH THE SEQUENCE (Words)**

**Preparation:** put on the floor some cardboards each indicating a letter (all the alphabetical letters can be reported or just some of them).

**Action:** give to the children a word (or show them an object). The children have to reproduce the word called (or the name of the object shown) by touching with the correct sequence all the letters that compose that word.

**Progression & Variations:**

* Children have to dance, to jump or to bounce a ball on the cardboards instead of touching them.

* Ask the students to touch the sequence in the opposite order (if the word “House” is called children have to touch the letters E-S-U-O-H).

* Let more children playing together at the same time by assigning to each one a different word.

* Assign to each child different words that need to be formed one after the other. This words can (BALL - IS - GREEN) or cannot (DOG- YELLOW- BREAD) form a meaningful sentence. Let the children reflect on how a sentence is structured.

**Inclusion:** children on a wheelchair can easily move among letters if there is enough space between them and if thick cardboards are not used (better write the letters on the floor or use normal sheet papers). If he cannot move the wheelchair have him give directions to a partner which can be blindfold (in order to give to the disable child the impression that he has the control of the game even if a friend is pushing is wheelchair).

Since a lot of movement is required to perform the game successfully, Hyperactive children may find this activities more appropriate than normal classroom lessons. Children with severe learning disability may find this approach more in line with their understanding modalities. A blind kid can be helped by a partner who tells them the word they are standing on.

If you perform the game with the kids blindfolded you put everyone in the same condition.

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### Debrief for activities R&W (4)

**Reflect:**
- Was it difficult to remember the sequence of letters?
- Was it difficult to remember the spot of each letter?
- And to write the opposite sequence?

**Connect:**
- Are there some letters that are used more?
- Which characteristics have this letters (Vows, Consonants etc)?
- When you are writing a word what do you normally find the most difficult?
- Why some letters are necessary to form the word even if they are not spelled?

**Apply:**
- Next time you are writing which strategies can you use to remember all the letters and put them in the correct sequence?
- How can you recognize if you have done a mistake in writing a word?
- What is the difference of writing and touching the floor and your notebook?
Activity R&W (5) : REMEMBER THE SPOT

**Preparation:** scatter randomly around the playing area as many objects as the number of children participating in the game.

- Ask to each child to find a spot next to an object that in that moment becomes his "Home Base".

**Action:** at the signal everyone has to move from the own spot and find another object that becomes for everyone "The Market".

By telling a story, ask the children to move from "The Market", to "The School" (represented by another object different from the previous two spots). Continue to give directions until 6-7 different spots are remembered by the students. Sometime ask them to come back home or to any other spot.

**Progression & Variations:**

*Ask the children to move from one spot to another in different ways, by running, jumping, by "driving a car", and so on.

* Ask the children to associate verbally each spot with the name of the object (ex."Home Base"- Ball, "The Market"- Rope and so on). This will stimulate them to use other strategies for retrieval the information which are not merely based on the visual-spatial memory.

* Instead of objects display white sheets of paper on the floor. Give to each child a marker. Every time they move to a new spot they have to write (or to draw) on the sheet the name of the spot; (on the first sheet they have to write "Home Base", on the second one "The Market" and so on).

**Insight Note:** The outcome of this game is probably more related to the Mind Ball rather then to the achievement of a specific subject. However as mentioned already, a proper development of the so called "Short Term Memory" (or" Working Memory") is of great importance when children are required to retain and elaborate information during the school lessons. As children as to keep temporary stored in the mind the location of all the different positions, the same can be transferred in the scholastic setting when different information collected from different sources need to be kept temporary in mind in order to be elaborated and understood properly.

**Extra Game to foster Working Memory:** have the children scatter around the room.
- Give them few balls that are constantly received and toss to another person.
- The children however are never allowed to pass the ball two times to the same person.

**Variation:** every time a child receives the ball it should be passed always to the same 4 person. (Sample of sequence: ball 1 to Mike, ball 2 to Debby, ball 3 to Giulia, ball 4 to Kerry, ball 5 again to Mike, ball 6 again to Debby and so on...)

**Inclusion:** Kids on a wheelchair can perform the game easily.

Keep the objects far from each other in order to allow more space to move. If it’s impossible to move the wheelchair give the child a certain number of objects to handle. Each object can correspond to a spot. Same way can be adapted for kids with visual impairment.
Debrief for Activity R&W (5)

Reflect
- Was it difficult to remember the spots in the beginning? And what about when the number increased?
  - How did you feel when you couldn’t remember the spot?
  - Which strategies did you use to remember the positions?

Connect:
- Does it happen in your life that you cannot remember an information that was just given to you (name of a person, where you put the keys and so on)?
  - Have you noticed that in the older persons?
  - What things do you have more difficulties to remember?
- What about when you are at school? What kind of information is more difficult to remember?

Apply:
- Which strategies would you use now next time you have to remember few things at the same time?
  - What would you suggest to your grandmother to help her to increase her memory?
  - How and in which subjects this kind of memory is important during your study?
Activity R&W (6): RELAY RACE (Words)

**Preparation:** Divide students in two or more groups. Display the cards with the letters on the floor (or within a basket) and ask them to run a relay race.

**Action:** Every team is assigned with a word that has to be formed by pick in up one after the other all the necessary letters. The faster the better.

- At the end of the race, let the kids read loud to the other groups the term they have formed.

**Progression/Variations:**

*Ask the kids to pick up random letters.
- After few letters are collected they have 3 more minutes to write down all the possible words that can be formed with those letters.

*Prepare two baskets. In the first one there are some small objects (like a pen, a tennis ball, a candy etc) in the other only letters.
- During the rely the participants alternate the picking up of an object with the pick in up of a letter that corresponds to the first letter of that object, (for example if the child n.1 pick up a Pen, the child n. two has to find a “P” in the basket. If the child n.3 pick up a Ball then the n.4 has to find a “B” in the letter basket, and so on).

**Creativity:** ask the children to run the relay by using different paces (running, for legs, hopping etc). The more variety the better. Praise the group that is able to invent more ways to move.

**Inclusion:** have a blind child carried or pulled by another person during the pace and then let him pick up the object from the basket. Use thick plastic letters instead of writing them on the paper. Also a child on the wheelchair can perform the relay race by keeping the obstacles quite far from each other. The basket must be positioned at a certain height (on the chair for example) in a way that its content can be easily reached.

Moving a wheelchair requires an incredible physical and mental effort for the kid, therefore be sure that the distance to cover is appropriate.

If you can find an extra wheelchair let all the children experience what means not to use the legs. As happen with the blindfold game even in this case children can discover and appreciate extra abilities in their disable friends.

**Debrief for Activity R&W (6):**

**Reflect:**
- Was it difficult to find the correct letter in the basket after the run?
- Which letters looked very similar and might be confused?
- Which letters were used the most?
- When you picked up the object did you immediately taught about the initial letter of it?
- Was it difficult to form a word with the selected letters?

**Connect:** see RCA of the game “Touch the sequence (words)”

**Apply:** see RCA of the game “Touch the sequence (words)”
**Activity R&W (7): LETTERS IN HAND**

**Preparation:** have the kids write a letter with a marker on their hands.

**Action:** they have to complete their name (or any other word they invent) searching for other people’s letters.

- As they find a letter they have to shake the hand of that person and then look for the next letter. (For example Jhonny will have to find a shake the hand of the mate with the “J” first, then the one with the “H”, then shake “O”, double shake with “N” and finally look for “Y”).

- It would be better to have all the kids with different words to create. Therefore instead of giving the specific word that need to be done, ask them some questions that generate different words for everyone, like for example “The word to find is the color of your shirt”, “Is the name of your grandmother”, “Is your favorite ice-cream” and so on.

**Progression/Variations:**

- Have all children in a circle, call a word and those with the letters forming the word have to go in the middle of the circle and to a little dance (It doesn’t matter if more kids have the same letter).

- Scatter some objects in the room and have the children pick up only those objects whose name starts (or contains) with the letter marked on the hand.

**Insight note:** in this way each child is individually force to think about the structure of the word represented by the object.

**Connection with other subjects:** this game can be done by using the English language.

**Inclusion:** if you have a blind child in the class just ask the other students to write with their fingers their letter on the palm of the blind friend. He/she will be able to recognize the letter and decide whether or not shake the hand to that person.

If some kids find the game too complicated make it easier by dividing the students in two smaller groups that work independently.
Debrief for Activity R&W (7)

Reflect:
What was the most difficult part of this game?
How did you find the letters you needed?
Was it difficult to recognize the different letters on the hands of your friends?
Did you always pick up the correct letter with the correct sequence?

Connect:
When you are reading does it happen sometimes that you don’t read the letters with the correct sequence?
Or that you don’t spell some letters that instead should be spelled?
And when you are writing do you sometimes forget to use some letters?
How do you recognize you made a mistake?
Is reading and writing happening at the same time?
Are there some moments in which you have to read and write almost at the same time?

Apply:
Next time you have to listen at somebody while writing what strategies can you use?
How would you focus your attention on the task of writing?
Is it easier to write with some pens instead of others? Why do you think so?
**Activity R&W (8): FREE LETTERS**

**Preparation:** this is a chasing game.
- Every child carries on the hand a letter written with a black marker.
- Select some Catchers (or “Monsters”) and tie around their arms a visible strip (in a way they can be clearly recognize by the “Escapers”.
- Prepare a 3x3 meters area (delimited with tape or chairs) that becomes “The Jail”.

**Action:** have the catchers to chase the other students.
- When an Escaper is touched has to go in “The Jail” area.
- The only way to escape from the jail is by finding among the other “Convicts” other letters that can form a word together (at least 4 letters have to be used).
- When a word is formed children are allowed to run again in the playing area.
- After few minutes stop the game, let the children rest and change the Catchers.

**Progression & Variations:**
* Have a “Guard” at the exit of “The Jail” that has to check if the words composed are correct.
* Instead of chasing by touching, the Catchers have to toss a light ball against the Escapers.

**Connection with other subjects:**

* **Math:** Instead of letters use numbers. The children in jail can free themselves only when the sum of a particular number is reached

* **Inclusion:** be sensitive to the fact that with some groups of kids (like youth at risk, soldier-children or sons of delinquents) the jail is a reality that they might have really experienced. Find other solutions like the “Fence of the pigs”, “The room of the letters” and so on.

* **Wheelchair:** chasing games are always more difficult to adapt for the needs of kids on a wheelchair. In this case have them be the guards at the exit of the jail or even better have them be the Catchers when the ball is tossed. Remember that you need a “Catcher Assistant” that collects the ball for them. They can also play as Escapers (send them to Jail after three times they are touched), or allow them to have a sort of protection (like a racket), in a way that they can take an active role in the process of avoiding the balls.
Debrief Activity R&W (8) (Yellow ball related).

Reflect:
How did you feel when you were chased? And as Catcher?
When you were excluded from running into the Play Area and sent to jail how did you feel?
Were you happy to find other person in the jail?
How did you collaborate each other to escape from the jail?
Was somebody excluded?

Connect:
Are there moments in life when you really need the support of other people in order to go out from a difficult situation?
Has it ever happened that your contribution was important to resolve a problem that was aroused?
As it ever happen that you had to be patient and wait for your turn before something happened?

Apply:
Next time you are in a difficult situation how would you ask the help of other people?
How do you think you can contribute to help other people to feel better?

RCA Academic related:
Use the same RCA of the activityR&W4
“Touch the sequence (Words)”
**Activity R&W (9): WORD OF MONSTER**

**Preparation:** prepare a little desk just outside the Play Area, with some pens and papers.

- Every child is assigned with a letter (or more than one), that can be either written on the hand or on a badge around the neck.

- All the children are free to move (by walking, running or dancing) in the Play Area.

**Action:** the teacher calls a word (like for example R-O-P-E).

All the children that have been assigned with a letter that form that word become the "Monsters" and have to chase the others.

- Just before start the chasing, the Monsters have to call out loud their letter, in a way that the other students can recognize who they have to run away from.

- Those who are touched, have to go to the "Desk Area" and write three times the word that was called by the teacher and then come back into the Play Area.

- After few minutes, let the children rest a little and get ready for another word.

**Progression & Variations:**

* If the “Escapers” can group and form a word with their letters the “Monster” can’t chase them anymore.

* Instead of going in the “Desk Area” children that are touched have to freeze themselves. In order to be free again they have to shout five words that start with the letter they have written on the hands.

**Creativity:** to free themselves they have to find and show three creative ways to form their own letter by using the body.

**Inclusion:** Wheelchairs (see also R&W 7), when they are chaser they can toss a ball instead of touching. Keep the "Desk Area" very accessible. They can be part of the group when other children are searching for letters to complete a word (assigned them letters that are use often like the vowels). A blind kid can also be a slow chaser. Ensure that the Play Area is safe (no objects on the floor etc).
Debrief for Activity R&W (9):

Reflect:
Was it difficult to understand if your letter was among those called by the teacher?
Was your letter called many times?
Was it difficult to write 3 consecutive times the same word after you run?

Connect:
Is it easier to remember the first letter or the other letters in a word?
Are some letters used more than others to form words? Why you think so?
Are there some letters which are not spelled in a word but are necessary to write it?
Can you give some example?
Are there some letters you find more difficult to write? Why do you think so?

Apply:
Why is it easier to associate a letter with a figure of an object or animal that start with that letter?
Can you imagine another way to write the letters that you normally find difficult to write?
Activity R&W (10): GRAB THE FLAG

**Preparation:** divide students in two groups and ask them to form 2 lines that face each other at a distance of about 10 meters.

- Every child is assigned with a letter and a number (like for example Rami is n.1 with letter E, Gayan is n.2 with letter R and so on).
- Be sure that the numbers and the respective letters are the same for both groups.
- The teacher or another child has to stay in the middle and hold a flag.

**Watch Out:** are all the kids starting from their line? Have all they properly understood the assigned letter?

**Action:** the teacher calls either a number or a letter and the two opponents with the number or letter called have to run toward the flag, grab it and come back to the respective line.

- Once a child takes the flag the other can chase him/her until he/she arrives to the free zone after the line formed by the other member of the team.

- Assign a point to the child with the flag if he manages to pass the line without being touched. Or give a point to the opponent if able to touch the flag keeper before he comes back to the own line.
Variations: Instead of say the letter let the students guess it, by presenting a word that is missing a letter (like for example CHIL-REN). The letter “D” in this case is the letter that has to run.

* In order to have the point, the team has also to answer correctly to a subject related question.

Creativity: instead of running children have to move with four legs (or hopping).

Inclusion: be sure that all the letters are called and everyone is given the same opportunity to try to catch the flag.
Let’s kids with similar motor abilities compete against each other (avoid a evident mismatch in the pair of numbers called).

Let’s the kid on the wheelchair/blind hold the flag and call the letters.
For kids with hearing problems, instead of calling a word show a cardboard with it written or painted.

Cross-curriculum: Math: ask some operations to the kids, the result of the operation called is the number that has to run.

Insight note: a part from the initial part of the game, in which students have to figure in the mind if the word called correspond to their target letter, other cognitive processes are involved in this play activity. An important one is the Reaction Time ability which is stimulated when children have to respond as quick as possible to a target verbal stimulus.
Another cognitive ability that is fostered by this game is the so called Inhibition Response ability. This ability is used when children refrain from perform an action that they were performing and they choose another motor solution (like for example when their target letter is not called or when they are running to fast toward the flag and the risk is to be touched by the opponent).
This ability requires a lot of cognitive effort, and it’s believed that the more we can develop these different cognitive abilities in the students the more it is possible to gain also from an academic achievement perspective.

Debrief  Mind Ball related for Activity R&W (10)

Reflect:
Did you react fast when your letter was called?
When you were in front of your opponent which strategy did you use?
Did you wait and see the reaction of your opponent? Or took the flag and run away?

Connect:
Is there any time you have to take fast and accurate decision in life?
Why it is so important?
Is there some time in life is better not to move and wait the others reaction?
Is there some moments in life when you start to do something and then you realize that your action needs to be changed?

Apply:
What can you do to react faster to any sort of stimulus?
What can you do to maintain your cognitive function efficient?
Thematic Area 3

**Move Your English (MYE)**

learning English through the active use of the body

"Move Your English" is an educational approach aimed to teach the English language to the primary school children all around the world.

It's based on the utilization of playful motor activity linked in a particular way with the use of the language.

As we saw in the previous sections in fact, a body that moves in the environment can be considered a powerful mediator of instructions that allow the students to transform with naturalness some abstract concepts in something real and vital.

This educative intervention has the potentiality of giving to the children a direct and immediate connection with the new language that they’re learning.

As you’ll realize by reading the following activities, another important characteristic of MYE is that the teachers/leaders/PC can actually start to verbally communicate with the children even if from the beginning there is not a language in common with them. This is possible because most of the activities are based on a non-verbal communication form which is slowly correlated with the use of the novel words.

Therefore according to this simple approach, we will be able to facilitate the learning process in a funny and natural way. The initial terms acquired are then fundamental to introduce some rules, positions of the body or basic movements that the students need to use during the playing activities.

**Key Learnings of this Thematic Area:**

1. Learning new verbs (VB)
2. Body Parts (BP)
3. Numbers (NB)
4. Colors (CL)
**Key Learning 1**

**Learning new verbs (VB)**

**Main Objective:** help the students to recognize basic verbal forms in English and reproduce them by using their own body first and then orally.

**Activity VB (1): VERBS IN ACTION**

**Preparation:** have the students scattered all around the gym (or the classroom).

**Action:** the teacher calls a verb in English at the imperative form and at the same time he/she has to demonstrate with the own body the meaning of the verb/action called.
- All the students have to repeat the movement that the teacher is doing.

For example, if the verb “Walk” is called the teacher starts walking and also all the children have to walk without saying anything.

- Then “stop” is called and the teacher and all the students have to stop and wait for the next command.

- The verbs that need to be called in this first phase are walk, jump, run, stand up, sit down, stop, open, close, touch, crawl, push and pull, kick, catch, throw.

This choice is because they're simply to perform and because they are the basis when it is necessary to explain to children games and exercises with more rules or actions involved.

**Progression & Variations:**

* When all the children have understood the first exercise the educator can now just say the verb without showing its meaning and the children have to reproduce with their body the meaning of the action called.

ex. The educator says “Run” (without showing it) and all the children have to start to run until the verb “Stop” is called.

* Repeat the same exercise with different verbs (but not many than 3-4 new verbs every day) until all the children reproduce them correctly.

* Some children are more passive and they just copy the movement from the other pupils without even listening at the verb so it’s now time to do the same exercise but in small groups or giving to every child a different verb to perform.

* Give personal instructions but using more than one verb at the time.

**Extra Game 1: “Penalty game”**: the teacher calls different verbs to perform and the children who make the wrong movements get a penalty point.

(The easiest way to begin is with sit-down and stand up but then is possible to use more than two verbs at the time).
Extra Game 2: “Chase as I say”: organize a simple chasing game, by giving some strips to the chasers in order to be recognized by the others. However all the students (both Chasers and Escapers) have to move accordingly the actions called in English by the teacher (moving by “Jumping”, “Crawling” etc)

Debrief: see Activity VB (2)
Activity VB (2): SAY SOMETHING

Insight Note: This first phase must be concluded with some oral production-exercises. In fact with the previous activity the child comes to understand the meaning of some words but not to repeat them orally (this is the normal process of acquisition of any language). So now it's possible ask to the children to use some of the words they've learnt.

Action: working in small groups or in pairs, a child has to say a verb (as the teacher used to do) and the other children have to perform this action with their bodies.

- Or vice-versa, a child performs a movement and the other has to say what she/he's doing, ex. one stars jumping and the other should say "jump".

Insight note: this is not correct from a grammatical point of view but very important to remember some words and start to use them, and then, in a second time, children can learn how to say correctly "he jumps" or "he's jumping";

Debrief (made in the mother language of the kids):
For activities VB (1) and VB (2)

Reflect:
Was it difficult to reproduce the verb that was called?
Was this association fast and easy to do?
Did you have some problems to understand or reproduce some of the verbs?
Was it easier to reproduce the actions with the body or with the voice?

Connect:
Did you translate them in your mind in your own language or you simple perform the actions directly?
Which strategies do you or other people use to remember some words in English (like for example the days of the week or the numbers)?

Apply:
Why is it better not to think in your own language while learning English?
How would you do next time you have to learn new terms in English?
Key Learning 2
Body Parts (BP)

Main Objective: help the students to learn how to recognize and reproduce in English the different part of their bodies.

Activity BP (1): TOUCH IT!

Action: using the same procedure used for the Activity (VB) 1 ask your students to perform the following actions:

"Jump on a foot"
"Touch the nose with the hand, touch the head with the elbow and so on..."
"Move on four legs"
"Open/Close your mouth, Open/Close your eyes" (see picture below).
"Walk on toe/heel"

Progression & Variations:

* Perform the "Penalty Game" (see VB1) by adding also some parts of the body among the instructions. (give instructions like "Open your mouth and close your eyes"). See picture below.

* Ball Body: in pairs a kid has to toss the ball to the partner by saying the part of the body that need to be used to catch/stop the ball.
(ex Kid 1 says "Head" and throw the ball to Kid 2 that has to touch it first with his head and then stop it and toss it back to the Kid 1 by saying another part of the body).

* Keep a bean bag in balance with a specific part of the body called by the teacher (or written on a card board).
- They can also use more than on body's part to keep the bag in balance (like for example finger-nose, foot -hand and so on).

* Have the students perform this game in pairs or small group using several bean bags at the same time.

* Have them perform a little obstacle race while holding the bag with a particular part of the body.

* Chasing Body: organize a chasing game, but the "Chasers" are allow to touch only with a specific part of their body, Or are allow to touch on the other only a specific part of the body called by the teacher.

- Or give the Chasers a ball and they have to toss and hit a specific part of the other's body.

Watch Out: in some cultures the touching of the body's parts is a sensitive issue that needs to be taken in consideration.
Insight Note: don’t expect all the students remember immediately all the part of the body. This is a learning process that might require a certain time. However try to use the English definitions of the body's parts as much as possible during the PE or health classes. Let them feel that using another language sometimes is like a natural thing to do.

Inclusion: if you have kids on a wheelchair give instructions with parts of the bodies they can always move. If you want to add extra part of the body (like legs) that cannot be moved by somebody, form some pairs and have them work together in the body conjunction. Create a safe Play Area for blind kids, let them feel they can move safely and freely around.

Debrief for Activity BP (1)

Reflect:
Was it difficult to reproduce the name of the parts of the body?
Was this association fast and easy to do?

Connect:
Did you translate them in your mind in your own language or you simply said the names directly?
Which strategies do you or other people use to remember some words in English?
Are there parts of the bodies which are used and mentioned more in everyday life?

Apply:
Why is it better not to think in your own language while learning English?
How would you do next time you have to learn new terms in English?
Why is it important to know how to say body’s part in English?
Key Learning 3
Numbers (NB)

Main Objective: help the students to become familiar with the oral and written production of the numbers in English.

Activity (NB) 1: 1,2,3 JUMP

Note: some of the activities showed in "Math in Steps" can be used also to reinforce the English language.

However here there are some extra ideas:

Action: teacher and students jump on a leg and while jumping they have to count each step in English.

- Same exercise using 2 feet, clapping hands, throwing and catching something in the air, beating something etc;
- Now the children repeat the exercise but they try to say the numbers by themselves without any support from the teacher;

Progression & Variations:

*Same sequence of activities but starting from number ten to one;

* Same sequence but they have to say only even/odd numbers;

* In pairs, one counts for the partner who is doing the movement;

* Write on different cardboards the numbers from 1 to 10.
  - Scatter the cardboards randomly around the room.
  - The children have to jump on the cardboards and say in English the number displayed.

Or * The teacher calls a number and the child has to touch it;

* The teacher scatters in the room many objects and all the students have to go around, count them loud in English and write on a piece of paper the quantity they have counted.

* Assign to each student a number, they have to pass a ball one to the other by keeping the correct order and saying in English the number of the next person they are passing the ball to.

Debrief: see activity NB (2).
Activity NB (2): 10 PASSAGES

**Preparation:** divide the class in two groups.
- Try to differentiate them properly, by giving them 2 different color strips or using T-shirt IN the pants, or T-shirt OUT the pants to recognize them.
- Give them a ball.

**Action:** a team has to pass the ball 10 consecutive times without having the ball intercepted by the other team.
- If the opposite team steals the ball they have to start to pass it among themselves and counting the passages they are doing.
- Every time the ball is stolen the counting starts from 1.
- The team that manages to do 10 consecutive passages gets one point.
- However in order to have the passage validated all the team members have to say loud in English the respective number they have reached.

**Watch Out:** is everyone receiving the ball or are always the same persons passing it among themselves? In this case the rule is: "Everyone has to touch the ball at least once".

Is the counting in English correct? Is everyone in the team saying the number in English?

**Progression & Variations:**

* Instead of a ball let them toss any other safe object (like for example a t-shirt).
* Have more than only two teams playing simultaneously.
* Ask the student to repeat the sequence of numbers from 10 to 1.
  - Or start from 20 to 30.
* Have a team act as Additions and the other as Subtractions.

**Inclusion:** have a *blind kid* start with the first passage and be the target person for the last one.
Debrief for activities NB (1) and NB (2):

Reflect:
Was it difficult to remember how to say the numbers in English?
Did it happen naturally after a while you were playing?
Was it difficult to perform a motor action and think about the number simultaneously?
Is it different to say the number in sequence or in a random order?
 Why in this way it is more difficult to remember?

Connect:
In which situations do you need to use the numbers in English?
How did you learn the numbers in your own language?
Is it better to translated them in your mind before saying them?

Apply:
What is a good strategy to remember numbers in English?
Is there any difference/similitude in the graphical symbols you use to write numbers?
How would you overcome this problem?
Key Learning 4
Colors (CL)

**Main Objective:** recognize and reproduce the names of the colors in English.

**Activity CL (1): JUMP INTO THE COLOR**

**Preparation:** prepare some hoops with different colors all around the room. (If hoops are not available any object with a specific main color can be used).

**Action:** ask the students to run around the room and to jump into the different hoops by saying loud the name of the color of the hoop they are jumping in.

**Progression & Variations:**

* Jump only with a leg or touching the inside with a specific part of the body.

* Instead of run & jump, have students bounce a ball around the room and into the objects.

**Extra Game 1:** have children run around, when the teacher call a name of a color all the kids have to tried to jump and fit into an hoop with that specific color. The last students that find the hoop get a "Chicken Point" (penalty).

* Play the same game in pairs holding hands.

**Creativity:** display the hoops in a way that can be considered the stones necessary to cross a river. - Every time kids step in a hoop they have to say its color, otherwise they fall in the rivers (See also AD 3)

**Insight Note:** if the students are concentrate on the movement of jumping into the hoops the verbal production of the name of the colors happens quite directly, almost unconsciously. Students in fact don’t have enough time to concentrate and to find the name of the color in English by translating it from their own language. This is a mental operation is too difficult to perform since they are also paying attention to other elements (the jumping, the balance, the sensorial information from the color of the hoop). Therefore in order to be successful in the Move & Talk task they have to find alternative strategies based on the direct/unconscious retrieving of information which represents the kind of mental operations necessary to memorize in the proper way the terms in another language.
**Inclusion:** Have a blind kid call the colors during the Extra Game. Use a lot of associations to explain the characteristics of each color ("Red like the blood, yellow like the sun, Green like the grass and so on"). For deaf students use painted cardboards to call the colour.

**Activity CL (2): WITCH CALLS THE COLOR**

**Preparation:** have the students (Escapers) standing in line one next each other. Select one or more witches that have to move on another line about five meters from the other kids. Have the witches and the escapers facing each others.

**Action:** the witches have to “Call a colour” by calling it loud and in English before starting the chasing of the other students.

- Right after the colour is called by the witches the escapers have to run around and find and touch with the hand the colour that was called.

- If the students (Escapers) find the colour called they are in the "Free Zone" and they can not be chased anymore by the witches.

- However if a child can not find the colour called he/she has to keep on running and escape from the witches.

- If a kid is touched by the witch he/she becomes witch as well.

(0r have the kid and the witch simply swop the roles in a way of having only one or two witches at the time).

**Watch Out:** are the witches calling only one colour. Is it called properly in English? Does everyone understand it? Are all the students look by themselves where to find the colour or is someone just following the others?

**Progression & Variations:**

* Have the witches call more than one colour at the time.

* Play in pairs holding hands.

* Have the students touch the colour only with a specific part of the body called by the witch (if Red-Foot is called for example, the children have to run, find the red colour and touch it with the foot).

**Creativity:** use different paces to reach the colour (on 4 legs, jumping like a frog, hopping, skipping and do on).
Inclusion: for blind kids the variations played in pairs might be appropriate (allow only walking).
For kids on the wheelchair put colour objects on a high that can be easily touched or let them use the wheel of the chair to touch colour cardboards on the floor.
Deaf students need to be showed a cardboard with the colour that has been called.

Debrief for activities CL (1) and CL (2):

Reflect:
Was it difficult to associate the specific colour with its name in English?
Is it difficult to remember the colour name in English when you are moving or in the classroom?
What is different?
Which strategies did you use to remember it?
How do you feel when you can successfully remember a new English word?

Connect:
Is there any time in life when you have to remember something quickly without thinking about it too much?
Is there a certain amount of times that a word needs to be repeated in order to be remembered?
Does the memorization of a word in English depends only by its repetition or something else can help you?
Why is it important to know how to say and write the name of the colours in English?

Apply:
Which strategies can you use next time you need to memorize something?
How can you use the colour pencils as tool to remember the name of the colours in English?
Do you feel confident to repeat this game in English with some of your friends outside the school?
Thematic Area 4

SCIENCE is a GAME

How to introduce scientific concepts using games as teaching tools

Key Learnings of this thematic area:

1. Water and its physical states
2. The cardio-respiratory system
3. Vegetal, Animal and Mineral kingdom
**Activity 1: WATER CHANGES**

**Key Learning:** to understand how the physical state of the water changes with the variations of the temperature.  
**KL2:** differences between Gas, Liquid and Solid physical state.

**Preparation:** with a tape (or a chalk) draw on the floor a 5 meters line which represents the temperature line (the "Thermometer").  
- On this line the temperatures of 0 and 100 degrees must be clearly marked.

-Let the kids imagine that they are little parts (molecules) of water.

**Action:** the teacher (or a student) has to move slowly on the thermometer line and the group of students (the water molecules) have to move accordingly the temperature reached:

- If the temperature is 0 degrees or below the water is in solid state (Ice) and all the students have to hold their hands firmly and stay still in a particular position.
- If the temperature is between 1 and 99 degrees the water is in liquid state and all the students have to hold their hands (but not as firmly as before) and they can move all around the room.
- If the temperature is 100 degrees or more the water evaporates and become gas therefore all the students have to disconnect the hands and are free to run and move around the room individually.

**Progression & Variations:**

* Add to the group some salt parts and help the students understand why if we add salt to the water this will need a higher temperature to boil.

* Let the students imagine they represent other substances different from water (like ex. alcohol, oil etc) and help them understand that different substances have different temperature of solidification and evaporation.

**Creativity:** when the water is ice have the students perform quickly creative ice figures with their bodies connected.

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<tbody>
<tr>
<td>Reflect</td>
</tr>
</tbody>
</table>
| How did you move when the temperature was 0 degrees (or 50 degrees)?  
Was it more difficult to re create the ice, the liquid or the gas? Why? |
| Connect |
| Can you give me some examples of water in its 3 physical forms you experience during the day?  
How are these states created normally?  
And for other substances? |
| Apply |
| Why the physical state of the water changes with the modification of the temperature?  
How can you make the water to boil faster? |

⇒ Link Ice-Water: Climate Changes
Activity 2: WE NEED OXYGEN

**Key Learning:** to understand the importance of the oxygen for the body and how the blood is re-oxygenated in the heart-lungs system.

**Preparation:** 3 different operative areas need to be prepared for this game.

-Have a group of students sit down one next to the other acting as the “MUSCLE” (Area 1).

-About 10 meters far from them display two hula hops. One represents the "HEART" (Area 2) the other the "LUNGS" (Area 3). Have the heart and the Lungs far about 5 meters from each other. Have a kid stay in each hula hop.

- Have two kids be the blood that carries the oxygen and the Co2 between the heart and the muscles (Carrier 1) and between the heart and the lungs (Carrier 2),

See fig. ... (need to be made)

**Action:**

* Have the group of muscles pass the ball one another as fast as they can.

- After they have all touched the ball this has to be given to the Carrier 1 that takes the ball to the Heart.

- Carrier 1 passes the ball to the kid in the Heart hula hop.

- The kid in the Heart has to passes the ball to Carrier 2 that as to run as fast as possible to the kid in the Lung hula hop.

- Carrier 2 passes and receives back the ball from the Lung Kid and comes back to the heart.

- Carrier 2 passes the ball to the heart kid who has to pass it back to the Carrier 1.

- Carrier 1 run back to the muscle and give them the ball.

- Repeat the sequence from the beginning as many time as necessary.

- After a while change roles and positions.

**Progression & Variations:**

* Have two teams perform the same sequence and count how many times the ball is touched by the "Muscle" group.

* Use more balls and have more kids act as carriers.

* Increase the distances between the different body's parts
Debrief:
This game can be then translated in an Academic related learning in this way:

The ball represents the oxygen used by the muscles to move.

After the muscle moved the oxygen is transformed in Co2.

The Carrier 1, which in our body is the blood, takes the Co2 from the muscles to the heart.

The heart (with the Carrier 2) sends the de-oxygenated blood to the Lungs.

The Carrier 2 receives back the oxygenated blood from the lungs and takes it back to the heart.

The Carrier 1 receives back the oxygen from the heart and takes it back to the muscle.

The muscle can now move again because it has enough oxygen and the all process start again.

Connect
How is your respiration’s rhythm and your heart’s beat after a fast and intense run?
Have you ever had to stop a game because you were too tired?

Apply
Do you have an example of things to do and not to do to keep our heart and lungs healthy?
Why is oxygen important for the muscles to work?
Is there any other substance as important as the oxygen?
**Activity 3: KINGDOM RELAY**

**Preparation:** scatter all around the room many cardboards indicating either an animal, a plant or a mineral.

- Divide the classroom in 3 or more teams and have them perform a rely race.
- In the end of the classroom prepare 3 baskets for each team that indicates clearly "Plant Kingdom", "Animal Kingdom" and "Mineral Kingdom".

**Action:** the first kid of each line has to start the race, pick up random cardboard from the floor, recognize and deposit it in the proper basket.

- After the first students comes back to the starting line he/she must sit down and the second one can start.
- Let the kid race until they finish all the cardboards.
- Only the cardboards in the correct basket can be count as successful points.

**Progression & Variations:**

* Instead of using cardboards try to use real things belonging to each kingdom (a leaf, a stone, a shell, a apple and do on).

* Have the kids perform the relay race with different paces (running like a lion, like an elephant etc).

* Increase the difficult of the game by adding sub categories to each main kingdom. (For example the animal can be distinguished in Mammals, Retiles, Birds and so on...).

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**Debrief:**

**Reflect**

Was it difficult to find the respective category for each cardboard?
Were some items more difficult to understand than others?
Was it easier to recognize it when a picture or just the word was written?

**Connect**

Can you give me some examples of things belonging to each kingdom that you have in your house?
What do the human beings eat? Which category this food belongs to?

**Apply**

What is the main difference between the Vegetal-Animal Kingdom and the mineral one?
Why do you think it is important to make this distinction?
How this game helps you to remember better the different categories?
Appendix A:

Extra
Warm Up (WU), Cool Down (CD),
Energizers (EZ) and Quiters (QS)
Academic Games (ACA)

Note: an “Energizer” is a short and “easy to explain” game that can be done in the classroom to arise the attention level of the students when they are too bored from the lesson or tired. A “Quiter” is instead the opposite, and it’s usable when the level of the noise in the classroom is too much and the general excitement of the students needs to be lowered in order to capture their attention.

1. No hands: move objects around the room without using hands (WU, CD, EZ).
   Variation: little groups competition. “Which group is the faster to move all the objects in that corner?”

2. Group Balance: all the group has to balance on one leg (CD, EZ).

3. Half Blind: 3 steps with eyes closed three open. Reach an objective without bumping into each other (CD, QS, ACA (Math)).

4. Back/Belly: two groups (male /female, orange/yellow) walk freely into the room but every time they meet a person of the same group they have to face him/her frontally, if it is a person from the opposite group they have to face each other back to back (WU, EZ).

5. Balloon game: blow and start to pass an air balloon. Using only hands, only heads, only feet, in pairs, in group, with an eyes close. One group try to keep it in the air the others try to avoid this happening (CD, QS). (For this game music is important!).

6. Bubble boy: let the kids imagine they are soap bubbles that bounce every time they find a wall or a friend (CD, QS).

7. Creative moves: have the kids moving following your directions like, “You are a strange animal that has 3 legs and one long nose”, or in little groups or pairs limit the arms/legs they can use (WU, EZ).

8. Falling Bean bags: everyone has a bean bag on the head and the other people try to make it fall down but without touching it (WU, EZ).
   Variation: divide in two big groups; create a little route they have to walk on with obstacles etc. (also CD).

9. Counting bags: two or more big groups in circle, they have to pass their bean bags (more than one each group) as many time as possible for one minute. At the end of the minute count how many passes they did. (If a bag falls they can not use it anymore, note: difficult game because the counting) (CD, EZ, ACA (Math)).

10. Hands Talking: every person is assigned with a number (not too high) then they have to find the other people with the same number without talking but by shaking hands accordingly (CD, EZ).
    This is also very nice to form group (if a kid has n.3 he has to shake the hands three times... and so on).

11. Long Snake: form a long snake al together keep hand by hand go trough a particular route (CD, EZ).
   Variation: 2 or more big snakes try to play football or something like that (also WU).
12- **Pairs Football**: little football game with two teams but each player is composed by two players that cannot separate from each other (WU).

**Variation**: same with air balloons try to bring the balloon in the opposite side of the room (like American football).

13- **Pen Polo**: make a little relay race by carrying a tennis ball with a pen; (EZ, CD)

**Variation**: create a sort of hockey game but everyone has to use the pen to hit the ball. (WU)

Or draw the shape of a country and the students have to move the ball on the shape (ACA (geography)).

14- **Order Balls**: (groups of 20), everyone is assigned with a number and then they have to pass a tennis ball in that order. The game becomes more complicated when more balls are added and when participants are required to move around the room (CD,EZ, ACA (Math, English)).

15- **Crazy papers**: try to control with the hands some newspaper sheets (or normal sheets), make the flight gently in the air and then passing it to another person (remember to use the music, ask the people to follow the rhythm) (CD,QS).

**Variation**: all sat down on the floor or on a bench, pass with the feet one after the other the piece of paper.

16- **Skating paper**: use to sheets of paper as if they were skates (WU,EZ).

**Variation**: one person on the skates and the partner pull him/her around the room.

17- **The mirror/ The shadow**: in pairs one face each other. One person does some slow movements the other repeats as if there was a mirror (CD,QS).

18- **Expressive hands**: some emotions are called “happy”, “hungry”, “worried” etc and the people have to express these emotions by using only the hand or foot fingers (CD,QS).

19- **Trust games**: one is blindfolded the other person gives direction verbally or by touching the shoulder of the blind (CD,QS).

**Variation**: a person falls backward and other people have to sustain her/him.

20- **Melting statue**: children are ice creams or ice statues that have to melt as slow as possible (CD,QS).

21- **Guess the position** (*be careful a lot of contact!*): one person chooses a frozen position the other one is blindfold and by touching her/him has to guess and assume the same position of the partner (CD,QS).

22- **Puppets**: one lead parts of the other person’s body pretending having a thread (CD,QS).

23- **Move in Chocolate**: people have to move in the room pretending they are inside a big chocolate pudding (CD, EZ, CS).

**Variations**: use other materials, water, in a cloud etc.

24- **Pass a fake air balloon**: children pretend they have an air balloon, or something else, in the hands and they want to pass/play with it (CD,QS).
Appendix B:

Insight

Physical Activity and Academic Achievement

If you desire to read something more about the research that has been done to understand the relationship between quantity of physical activity in the school setting, physical fitness level and related academic results please contact the author of this manual.

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