

# **Problem Solving**

Grades 3-5

**You'll need:** Hoops, cones, scarfs or pinnies, Green Glass Door cards

You can play: outside, in the gym, on the blacktop

#### Game 1

### **Monsters in the Closet**

Place enough hoops around the space for one per learner. On a signal (which can be music) the children move around like monsters or however they choose. On the next signal (like the music stopping), the learners jump in to the closet (hoop). When they are all moving again take away two hoops. When they have to jump in to the closet again there will not be enough hoops for everyone so they will need to work out how to get in to a hoop with someone else. Repeat the process until all learners are in as few hoops as possible.

## Game 2

## **Dragon Slayer**

Form groups of four people. Three people link arms over shoulders and create a circle around a cone with a scarf or pinnie tucked in to one person's shorts. This creates a 'dragon' who has a tail. The fourth person in the group is the 'dragon slayer' and has to try and pull the tail from the dragon. The dragon rotates around the cone while trying to keep their tail. After the tail is pulled or a certain amount of time, the dragon slayer switches with another learner.

### Game 3

### **Green Glass Door**

Give each learner a card. When you call 'Go!' they run to the far side of the gym and try to find someone who has something on their card that is the same as theirs. This can be a shape, animals, number of letters in the word, arrows, colours etc. When they find someone, they pair up and go back to the start. The next time 'Go!' is called, the two people stay together and try to find others with the same item they have. Repeat until everyone has something that is the same.



Use the letters in the words or similarities that are less obvious



Use colours and shapes

### **Debrief**

Was it easy to think of a solution after you had been running? Did you do anything to calm your mind down in order to be able to think? Could you spot any similarities on your cards?



# Why include problem solving?

A key tenet in the theory of physical literacy is the philosophical principle of monism. Monism states that we are a single being, with our minds and bodies being a single unit that need to be nurtured and developed together. Current child development principles embrace this philosophy through understanding and operationalizing a holistic approach that is individual for each child. With these notions in mind, it is important to embed cognitive components in to the physical education curriculum in order for learners to understand the connection between our physical and cognitive states.

To look at this another way, it can be said that every physical activity or game is a puzzle that needs to be solved in order to achieve success. For example, the strategies and decision making process that are required even in the most simple tag game will impact how much success you achieve in that activity. In this scenario, it is important for all learners to learn how to use their brain to solve complex puzzles when their body is in a fatigued state. This takes concentration, self-regulation and control to do effectively and efficiently.

In the games used in this lesson plan the games have been intentionally designed to provide various equations that may require a unique solution, lateral thinking or potentially no solution at all. Depending on the developmental level of the learners in your group, you can create a more difficult or easier challenge for each of these activities.

For the first game, the problem arises when there is too little space for each person to stand in a hoop. If you have a group that may need a little help, you can say that only one piece of each person, such as a foot or a hand, needs to be in the hoop. This creates a lot more space. Alternatively, if the group need a challenge, you can change the hoop to a bench or chairs, and state that everyone has to be off the ground. In each case, the problem being solved does not change and the answer cannot purely be of an 'athletic' nature.

In the second game, there are two different problems to be solved, one by the 'dragon' and one by the 'dragon slayer'. Is the only answer to getting the dragons tail to go faster? Or is there a different solution that may work more effectively? For the dragon, do you make the first move or react to the dragon slayers movements? Who should initiate that movement?

The final game is a lot more complex and may take more time to play. Based on a language based riddle of the same name, PISE created these cards as a visual representation of the activity. These cards have many different levels of complexity embedded within them, with each card able to be included in many different categories. It is best to start this activity with the easy options first (the shapes and colours of the shapes) to gain the understanding of the activity, then increase the complexity as learners understand the thought process that is required to solve the problem.

If you have any questions regarding physical literacy, physical activity, games or facilitation, please contact us at play@pise.ca. We are here to help you!