

# Science Teambuilding - Discover the Connection

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Activity Name: Line Up

Scientific Concept: **Organization**

Objective: Have the group line up according to the assigned criteria

Description: You give the group a criteria - birthday, age, height, # of 4-H clubs etc. - then they have to line up in order. Depending on the group you can also take away certain abilities - try having them line up blindfolded, without speaking, with some blindfolded etc.

Science Connection: Scientists have made the study of science manageable by organizing and classifying natural phenomena. For example, natural objects can be assembled in hierarchies (atoms, molecules, mineral grains, rocks, strata, hills, mountains, and planets). Or objects can be arranged according to their complexity (single-celled amoeba, sponges, and so on to mammals).

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Activity Name: Raccoon Circles - Circle Sitting

Scientific Concept: **Cause & Effect**

Objective: To have the group move up and down 3 times while holding onto Raccoon Circle

Description: This is an activity taken from the Jim Cain's Book of Raccoon Circles. The group must learn to balance their weight and move up and down 3 times without falling or slipping. Safety is very important! The group must all be focused for this activity to work.

Science Connection: Every action has an equal and opposite reaction. Everything that we do and nature does affects other things. Nature behaves in predictable ways. Searching for explanations is the major activity of science; effects cannot occur without causes.

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Activity Name: Marshmallows & Knives

Scientific Concept: **Systems**

Objective: Have the participants recreate the structures in the pictures.

Description: This is an activity that is taken from Sam Sikes book: Feeding The Zircon Gorilla. The participants recreate the structures/systems in the pictures with marshmallows and knives. They move from working independently to working in small groups to working in larger groups. The full instructions can be found here:  
[http://www.firststepstraining.com/resources/activities/archive/activity\\_cutting\\_edge.htm](http://www.firststepstraining.com/resources/activities/archive/activity_cutting_edge.htm)

Science Connection: A system is a whole that is composed of parts arranged in an orderly manner according to some scheme or plan. In science, systems involve matter, energy, and information that move through defined pathways. The amount of matter, energy, and information, and the rate at which they are transferred through the pathways, varies over time. Children begin to understand systems by tracking changes among the individual parts.

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Activity Name: The Meter/On Target

Scientific Concept: **Scale/Measurement**

Objective: Get the participants to let you know how they are feeling

Description: The Meter: Arrange a rope in a half circle and use it as a gauge - like a gas gauge to have the group answer various questions: Where is your energy level at? How excited/nervous/confused are you? How many new ideas have you learned. This helps you as a facilitator see where the group is at.

On Target: Similar activity but use the rope to create a circle then place an item at the middle of the circle and have the group leave items as close to the "target" as then feel when answering similar questions to above.

Science Connection: Thermometers, rulers, and weighing devices help children see that objects and energy vary in quantity and that these objects and energy are measurable. Using The Meter or On Target helps the kids learn concepts of measurement

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Activity Name: Group Juggling

Scientific Concept: **Models**

Objective: Have the group juggle...title says it all

Description: Have the group stand in a circle and have them throw a ball from person to person making sure that everyone in the group gets the ball at least once. Have the group explore the best way to do this - what works and why? Does one model/method work better than another? Have the group explore what other things work the same way - a similar model...

Science Connection: We can create or design objects that represent other things. This is a hard concept for very young children. But primary-grade children can gain experience with it by drawing a picture of a cell as they observe it through a microscope. Intermediate-grade children can use a model of the earth's crust to demonstrate the cause of earthquakes.

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Activity Name: What is Different?

Scientific Concept: **Change**

Objective: Have the participants observe change

Description: Pair off the participants and have them look at each other for 30 seconds. Then have them turn away from each other and change one thing - a ring turned, shirt untucked etc. - then have them turn back and try to discover what the other person changed. After the first pair have them pair up with another pair and look for two changes. Is it easier to work as a team or individual? Can a team work on a method to discover the change quicker?

Science Connection: The natural world continually changes, although some changes may be too slow to observe. Rates of change vary. Children can be asked to observe changes in the position and apparent shape of the moon. Parents and children can track the position of the moon at the same time each night and draw pictures of the moon's changing shape to learn that change takes place during the lunar cycle. Children can also observe and describe changes in the properties of water when it boils, melts, evaporates, freezes, or condenses.

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Activity Name: Bag of Tricks

Scientific Concept: **Structures & Function**

Objective: Have the participants think differently.

Description: Give the group a bag of items that seem random. Have the group come up with a story that illustrates how the items work and function together. The more creative the better. This activity helps the group discover and let other imaginations come to light. Connecting various items will create structure out of the chaos of the random items.

Science Connection: A relationship exists between the way organisms and objects look (feel, smell, sound, and taste) and the things they do. Children can learn that skunks let off a bad odor to protect themselves. Children also can learn to infer what a mammal eats by studying its teeth, or what a bird eats by studying the structure of its beak.

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Activity Name: Arrange the Deck

Scientific Concept: **Variation**

Objective: Have the group arrange cards in order.

Description: split the group into groups of 2 and have them arrange 10 random cards in order. The pair decides what "order" they will put them in. The group will then explain their method to other groups - this will highlight that other groups arranged the cards differently. Then pair the pairs up and have them arrange another stack of 10 random cards. Keep going until the object is to have the entire group (limit to 16) try to arrange 10 cards. How hard was it in the small groups compared to the larger groups?

Science Connection: To understand the concept of organic evolution and the statistical nature of the world, students first need to understand that all organisms and objects have distinctive properties. Some of these properties are so distinctive that no continuum connects them—for example, living and nonliving things, or sugar and salt. In most of the natural world, however, the properties of organisms and objects vary continuously.

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Activity Name: On the Bus/4 Corners of the World

Scientific Concept: **Diversity**

Objective: Have the group understand the differences and similarities they have

Description: These activities are great to do at the beginning of a group working together. It is important for the group to understand the other people - the more we know about someone the less likely we are to try and hurt them. Understanding what other groups members have in common or think differently about helps the group understand the Diversity in the group and how Diversity is a good thing. If we were all the same it would be pretty boring.

Science Connection: This is the most obvious characteristic of the natural world. Even preschoolers know that there are many types of objects and organisms. In elementary school, youngsters need to begin understanding that diversity in nature is essential for natural systems to survive. Children can explore and investigate a pond, for instance, to learn that different organisms feed on different things.

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The Science Connection writings are based on parts of the pamphlet: Helping Your Child Learn Science, a publication of the U.S. Department of Education