

Topic: Near-Far, Big-Small

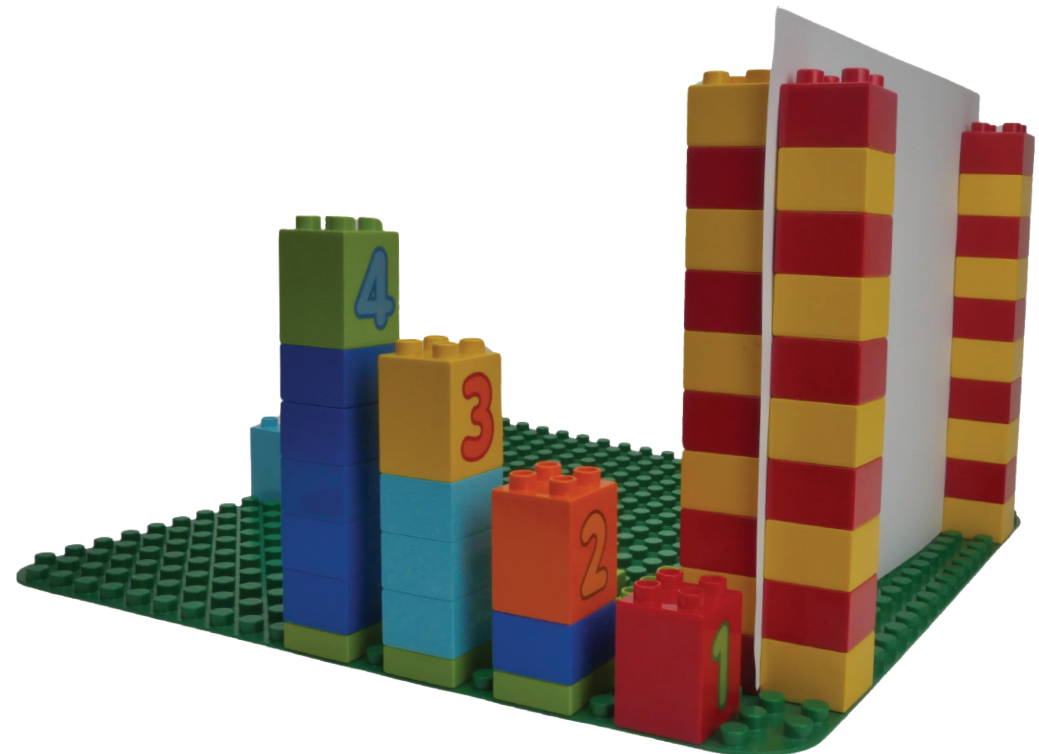
Resources: a large green baseplate, instruction cards 483, 484 and the corresponding construction material, two tall bricks, two 2x4 plates, two pencils, flashlight, activity card D-4-1 with position checked by teacher, activity card D-4-2; two identical small animals.



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Sequence of activities:

1. The teacher gives each team the necessary resources, then asks them to build the house, the shadow screen, the number lines, and place the flashlight between the two tall flat bricks.
2. After this, the teacher assigns roles to each child in the team: one child will set an estimating problem, the other will solve it. The first child is to stand behind the flashlight, the second in front of the screen. The child who will set the problem works so that the other does not see what he is doing
3. The teacher tells the teams to put their house on line three. The first child positions the house and turns on the flashlight. The second child examines the shadow on the screen.
4. The teacher distributes pencils and activity cards: the first child receives D-4-1, the second D-4-2.
5. The teacher asks the first child to turn off the flashlight, move the house to the first position shown on their activity card, then turn the flashlight back on. The second child examines the shadow and marks, in the yellow column on his activity card, which line he thinks the house is on without telling the other child.





6. The next two positions from card D-4-1 are carried out similarly.
7. The teacher asks the two children to compare their cards. The second child, after examining his partner's card, will mark the actual positions in the green column of his card. They now see how many places match.
8. The teacher asks the children: "When the house is placed on line one, is its size on the screen larger or smaller than that on line four?". Children answer and check in teams. The teacher repeats the question for lines two and three, with the children answering and then checking.
9. The teacher summarizes the results of the experiments: the closer an object is to the light source, the larger its shadow on the screen, and vice versa – I.e. the farther the object is from the light source, the smaller its shadow.
10. The teacher then says that they will test this conclusion. Each team will use two identical animals. The teams are to place them on different lines and compare the resulting shadows on the screen.
11. The teacher distributes the pairs of identical animals. The children place them on the 2x4 plates, then conduct the experiment at their own pace.
12. The children, with their teacher, conclude that if two identical objects are placed at different distances from a light source: the shadow on the screen of the object closer to the source is larger, and that of the object located further from the light source is smaller.

