

Topic: How many bricks?

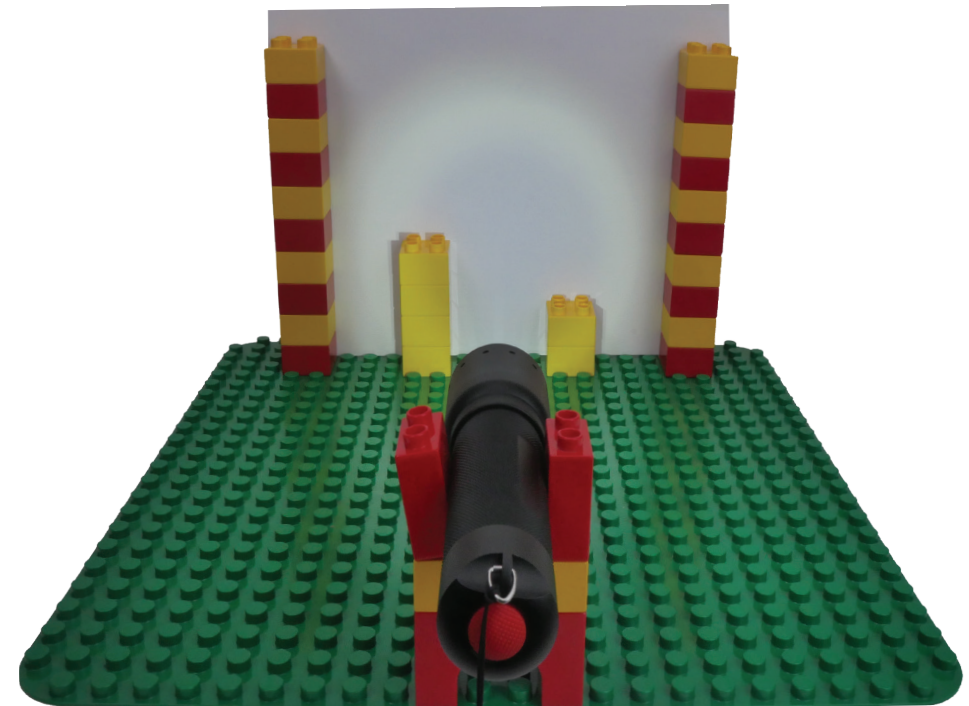
Resources: large green baseplate, instruction cards 481, 482 with the corresponding construction material, numeral bricks 1 to 6, 10 solid color 2x2 bricks, white A4 sheet, colored pencil, flashlight, activity card D-3-1.



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Sequence of activities:

1. The teacher gives each team the necessary resources. They tell the teams to build the shadow screen and flashlight stand. They will then place the flashlight on the stand.
2. The teacher assigns the roles of each child in the team, explaining that after the first trial they will change places. One child will set a problem and the other will solve it. The first child will be behind the flashlight and the second in front of the screen. The child who sets the problem makes sure that the other does not see what they are doing.
3. The first child constructs a brick tower. They decide its height, but no higher than six bricks. They place it against the screen on their side, at a distance of four buttons from the left pillar. They then illuminate it with the flashlight, coloring in on the activity card the number of bricks used to build it.
4. The second child looks at the shadow on the screen and selects a numeral brick that matches the number of bricks they think are in the tower. They place this brick in front of the shadow and say the number. The first child marks on the activity card whether the estimate was correct, then lifts up the white sheet. The second child sees if their estimate of the number of bricks was correct.
5. The children and teacher now see how many of the teams have correctly estimated the height of the tower. The teacher records the result.
6. The first child puts back the white sheet, then constructs a second tower of different size and places it against the screen two buttons away from the first tower, and lights the flashlight. They color on the activity card the number of bricks used to build it. The second child looks at the shadow,





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compares it to the first, and selects a numeral brick that matches the number of bricks they think are in the tower. Placing this brick in front of the shadow, they say the number. The first child marks on the activity card whether the estimate was correct. Then they lift up the white sheet and the second child checks if their estimate of the number of bricks was correct.

7. The children and teacher again count how many teams correctly estimated the height of the second tower. The teacher records the result and compares the result of the first and second counts, placing a comparison sign between the two numbers.

8. The first child puts the white sheet back and removes the two towers from the model. They construct a new tower of a different size, place it in the middle next to the screen and turn on the flashlight. They color in on the activity card the number of bricks used to build it. The second child meanwhile looks at the shadow on the screen and selects a numeral brick that matches the number of bricks they think are in the tower. They place this brick in front of the shadow and say the number. The first child marks on the activity card whether the answer was correct, then lifts up the white sheet. The second child sees if their estimate of the number of bricks was correct.

9. The first child turns off the flashlight, builds a new tower to replace the first one, and turns on the flashlight. They color in on the activity card the number of bricks used to build it. Meanwhile the second child looks at the shadow on the screen and selects a numeral brick that matches the number of bricks they think are in the tower. This brick they place in front of the shadow and say the number. The first child marks on the activity card whether the estimate was correct. Then they lift up the white sheet and the second child sees if their estimate of the number of bricks was correct.

10. The children dismantle all the towers and then switch roles. After each of the first two estimates, the teacher and children count the correct answers. The teacher writes them down and inserts an appropriate comparison sign.

11. The children, with their teacher, conclude that it is easier to estimate the size of an object when it can be compared with another whose size is already known.

