



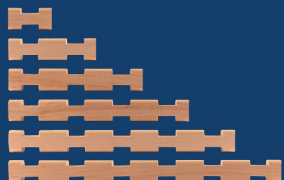
The mark of responsible forestry



EDUCATIONAL KIT

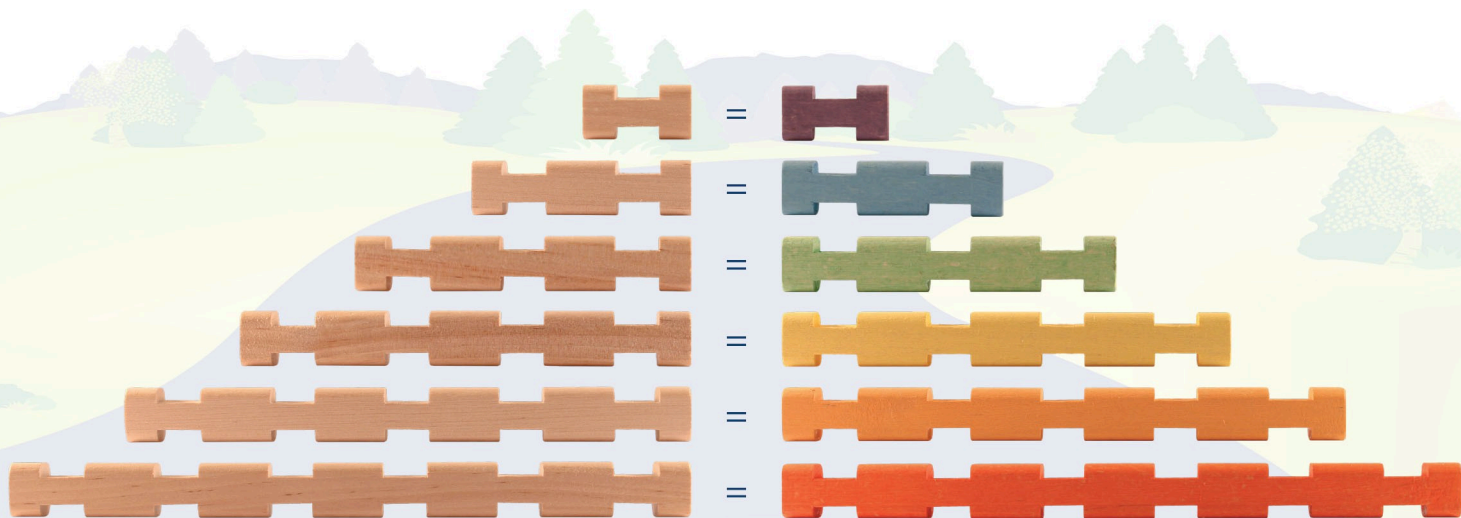
WOODEN CONSTRUCTOR

BLUE



**PRACTICAL MANUAL
MATHEMATICAL EXERCISES
PROBLEM-SOLVING CARD DECKS**

COLOURS USED IN THE MANUAL



STEKU CONSTRUCTOR

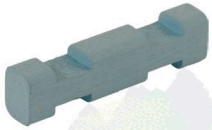
“Creativity requires the courage to do things differently and not to be afraid to make mistakes. Steku constructor does that excellently.”

- Tiitu Tammemäe, Tallinn University, educational sciences PhD

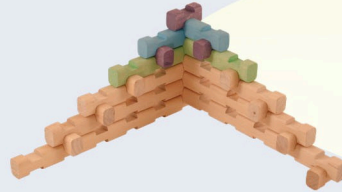
Steku constructor encourages children to play creatively. During the creativity process children develop their social and linguistic skills and also fantasy. The set is suitable for different age groups and offers various options of usage for kindergartens, schools and homes. The constructor's parts are designed to enhance hands-on activities, learning mathematics and playing. Children greatly enjoy toys, which are not completely finished products and thereby leave room for the imagination and its development. Building with Steku constructor's pieces requires coordination, mathematical thinking and creativity all at the same time. All the pieces have the same shape but they are in six different sizes which ensure the variety of the constructions created. When measuring correctly the length and position of the pieces, one might build very large and long-lasting constructions. Nowadays children are surrounded by technological wonders, but with Steku constructor's pieces we give children the opportunity to use their own creativity and experience real activity in the real world.

HOW TO CONSTRUCT

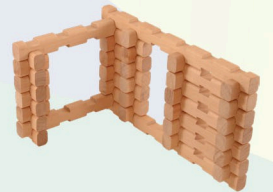
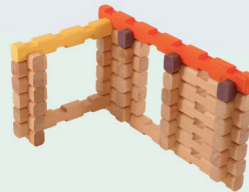
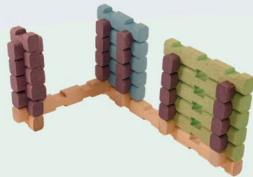
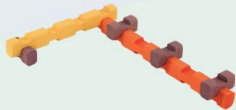
AIRPLANE



CORNER



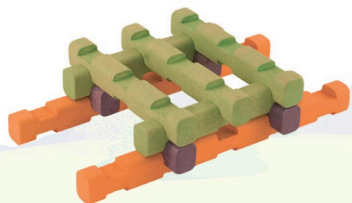
WINDOW FRAME



HELICOPTER

BLUE 40

MANUAL



ALL YOU NEED



13 pcs



0 pcs



12 pcs



0 pcs



4 pcs



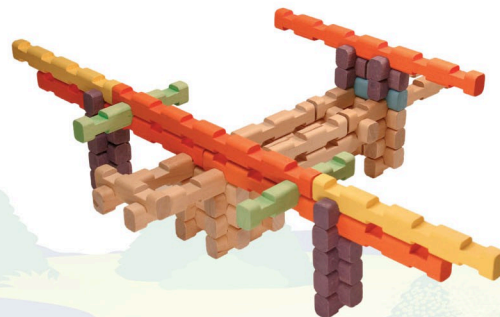
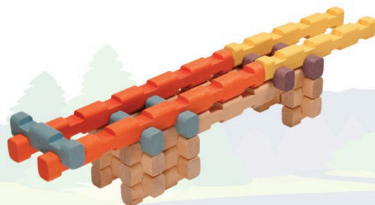
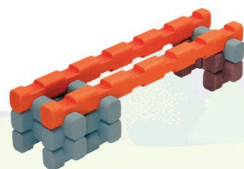
1 pc



AIRPLANE

BLUE 170

MANUAL



ALL YOU NEED



32 pcs



13 pcs



2 pcs



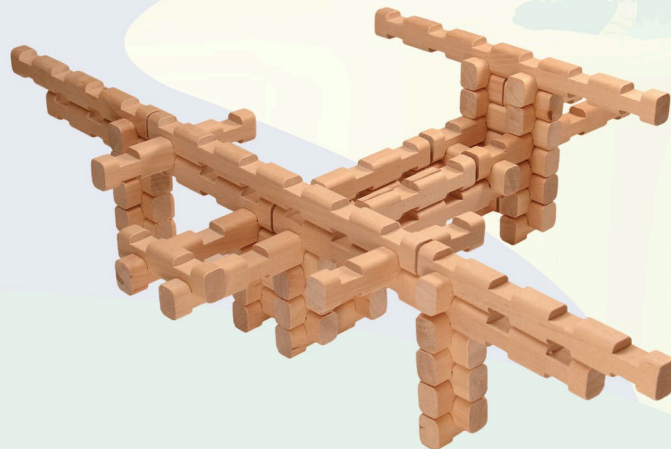
4 pcs



0 pcs



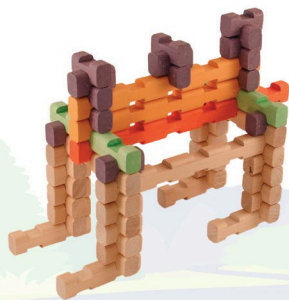
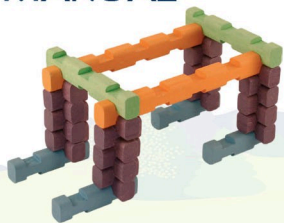
8 pcs



CAMEL

BLUE 90

MANUAL



ALL YOU NEED



52 pcs



4 pcs



5 pcs



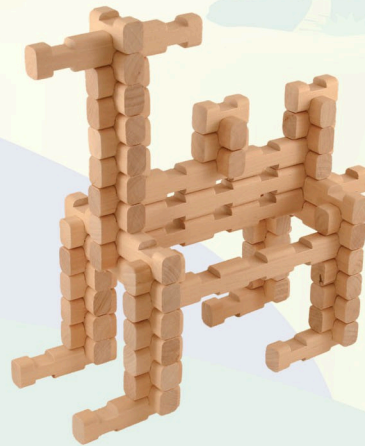
0 pcs



4 pcs



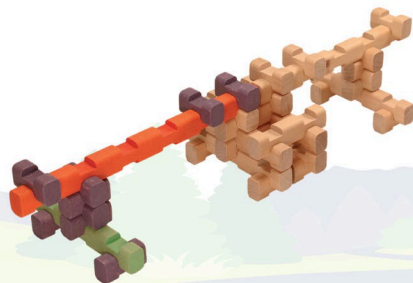
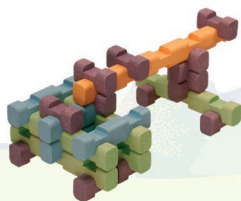
1 pc



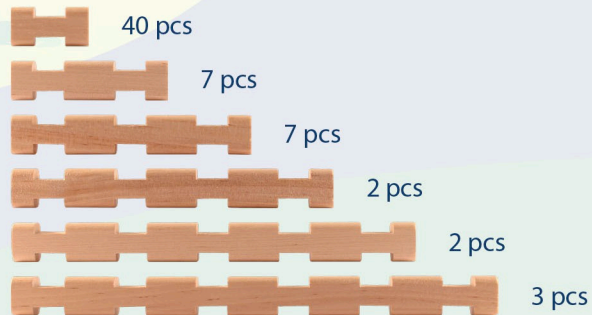
DRAGON

BLUE 90

MANUAL



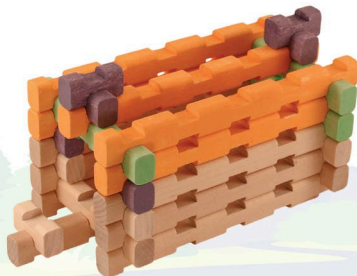
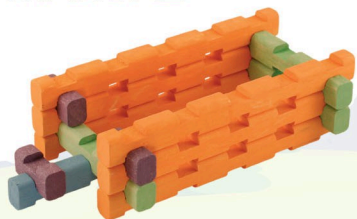
ALL YOU NEED



HOUSE

BLUE 170

MANUAL



ALL YOU NEED



9 pcs



1 pc



6 pcs



20 pcs



11 pcs



0 pcs



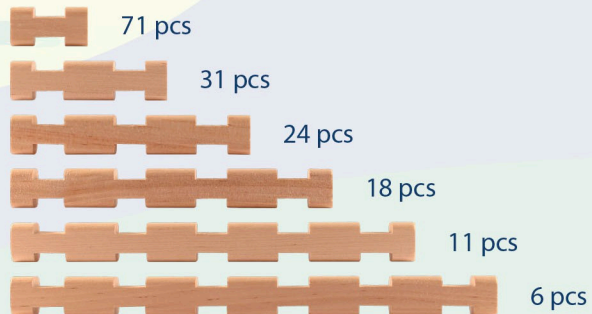
CHURCH

BLUE 260

MANUAL



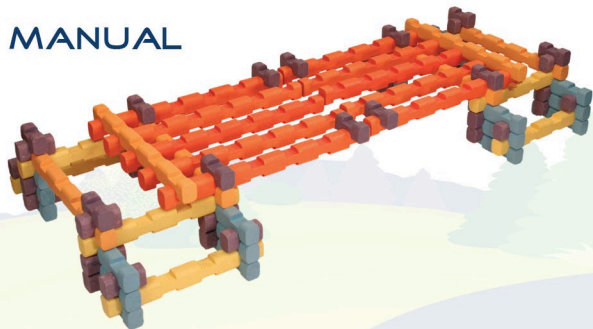
ALL YOU NEED



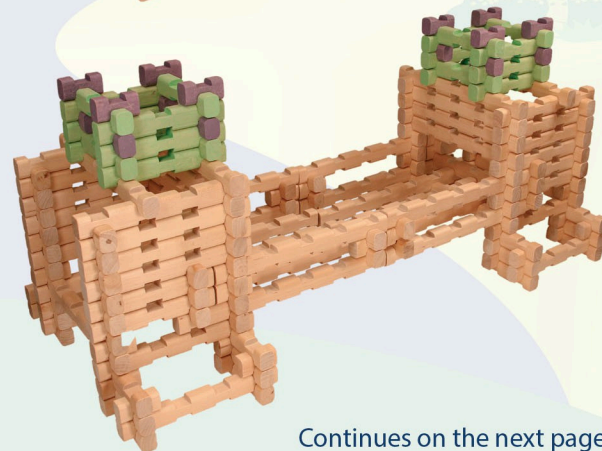
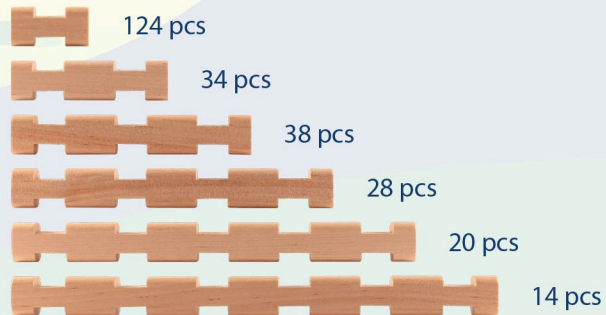
BRIDGE

BLUE 260

MANUAL



ALL YOU NEED

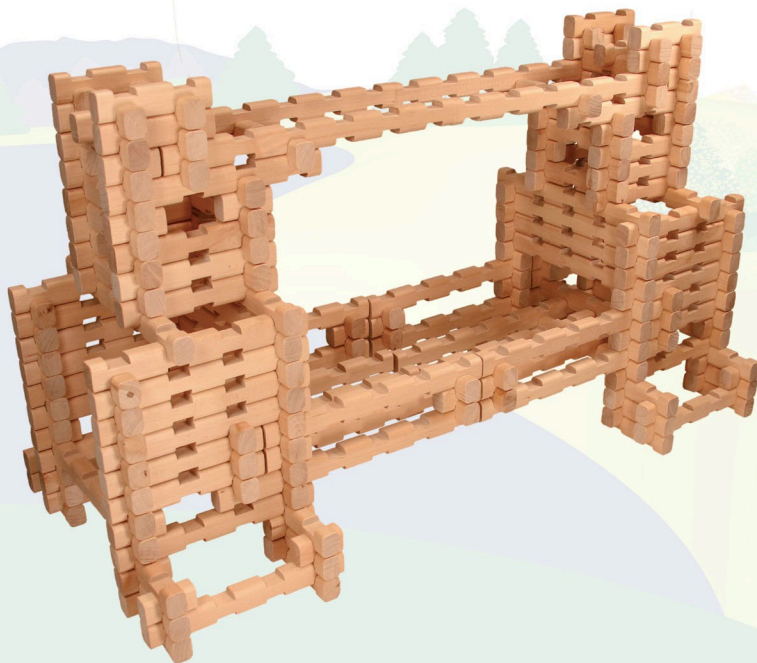
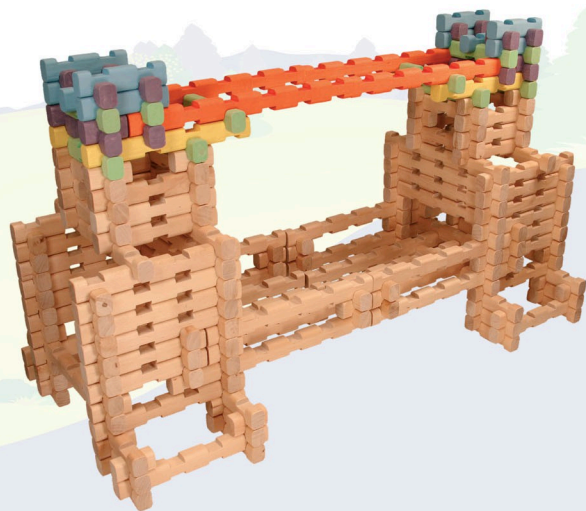


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BRIDGE

BLUE 260

MANUAL



PROBLEM-SOLVING DECK CARDS

“Creating something always requires problem solving. Steku constructor teaches children to look for problems and solve them.”

- Tiia Õun, Tallinn University, docent of preschool education

Steku's set includes problem-solving deck cards which can be used while building a construction. These cards make solving exercises more interesting and practical. Every card has written on them a story about a problem. Taking into account the child's development, the adult can expand these stories. There are guiding questions which help to really focus on the subject and create a discussion. To support creativity and fantasy, the child can examine the pictures and describe the story without reading it. By using Steku constructor's pieces children can solve the problem individually or in a group. One possible solution is displayed on the smaller picture next to it, but all the children's answers can be considered correct. It is important to explain the chosen answer and to creatively construct the imagined tool or instrument.

Steku constructor allows the child to learn through playing and thereby the learning process takes place without even a notice.

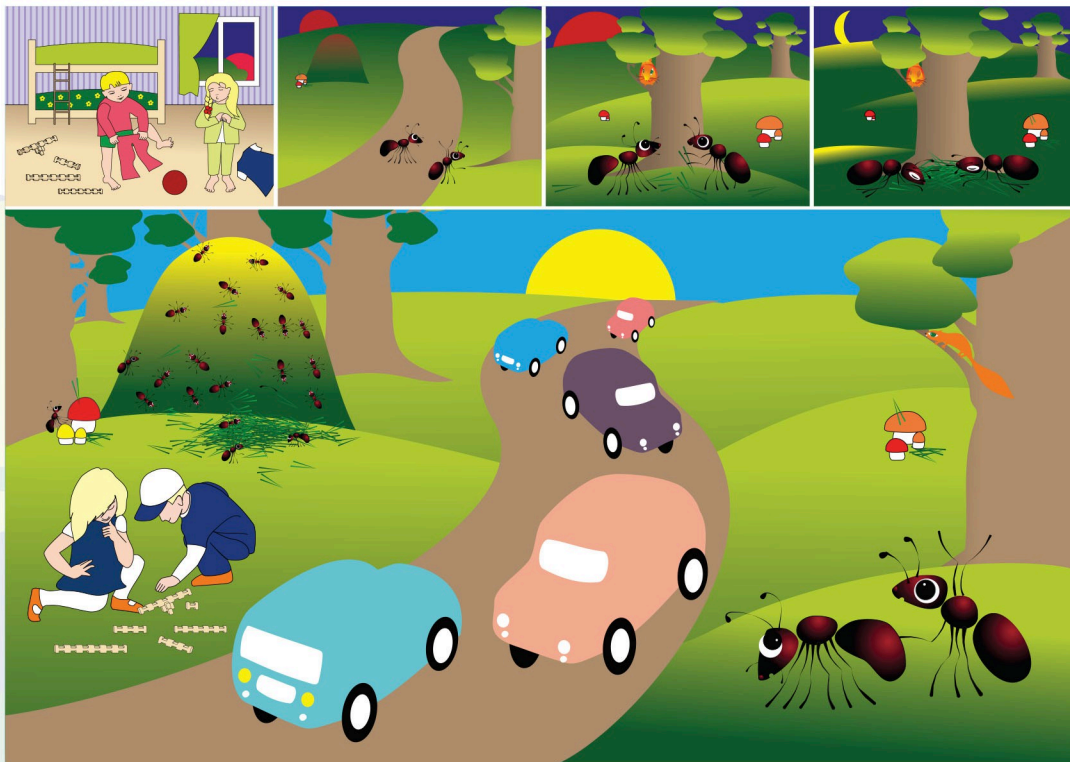
All of the problem-solving deck cards - www.stekuworld.com/activitycards

ANTS

It's evening time; Paul and Liisa have brushed their teeth and are going to sleep. At the same time busy ants are working outside. They are building a new home underneath the old dam. The ants work all night to gather spruce prickles and other useful things. They find the best building material under a tree across the road. The journey from the tree to the nest is long and exhausting. The ants take a rest under the tree. In the morning the ants wake up to a loud racket. They notice that the sunrise has awakened the people who are now driving to work in their cars. The ants are worried because now it is impossible to cross the road and they cannot get back home. How can Liisa and Paul help the ants?



ANTS



At what time do you go to sleep?

At what time do you wake up?

Why does night follow day?

What do the ants use to build their home?

Have you ever seen an anthill?

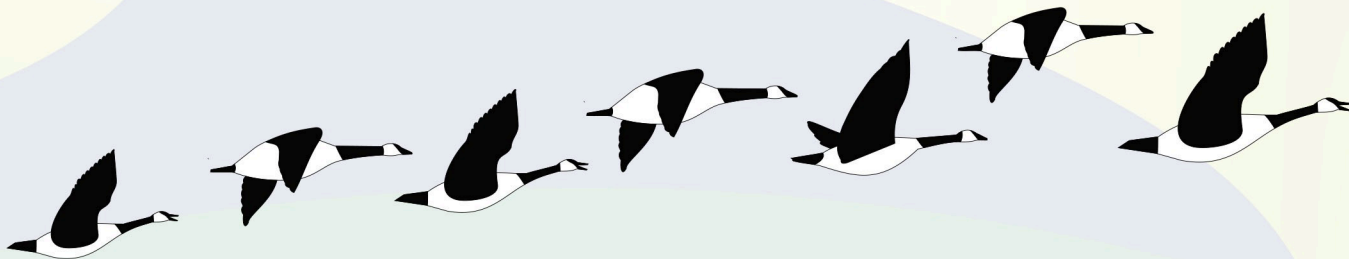
How many legs does an ant have?

One possible solution



MIGRATION OF BIRDS

The colourful autumn has arrived. Children are playing in the piles of leaves. At the same time, migrant birds are getting ready for a long journey to fly to a warm country. Looking at the birds, Linda and Paul also wish to escape the cold and travel to a warm country. "Why can't we also have wings so we could fly to wherever we want?" ponder Liisa and Paul. How can Liisa and Paul travel to warm countries?



MIGRATION OF BIRDS



Why do birds migrate?
Name some migrant birds!
Why is it warm in Africa?
Name different types of transportation!

One possible solution



BIRDS IN WINTER

It's winter time. The ground is covered in snow and the usual temperature outside is over minus ten degrees. Liisa and Paul are playing with blocks inside. Paul suggests they go outside to play. The children put on warm clothes and go outside to build a snowman. While building the snowman they start feeling a little bit cold. To feel warm again, they go skiing. When they arrive at the big oak tree, they see great titmice that are full of hope searching for some food in the thick snow. Close by there is a hungry fox lying in wait. How can Liisa and Paul help the birds?



BIRDS IN WINTER



What are the winter months?

At what temperature does water freeze to ice?

What else can you do outside in winter?

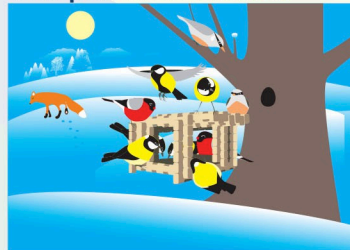
How can you help the animals in the winter?

What do birds eat?

What do foxes eat?

Name some migrant birds!

One possible solution



MATHEMATICAL EXERCISES

“A child learns math primarily by action – testing and trying out in order to develop the ability to think about matters which are not directly perceivable. Steku blocks are very suitable for this action.”

- Math teacher Irja Rebane

Steku constructor's pieces are all the same shape but are in six different sizes, the blocks have one to six notches. These parts can be used to teach basic knowledge in mathematics (using them as calculation blocks, concept: less, more, taller, shorter). To build strong and lasting constructions one must take into account the size of the pieces.

The manual displays five different exercises which develop spatial perception. To complete the exercise, the children are given a certain amount of blocks and, with some guidance from the teacher, they build a foreshown construction. When the construction is finished the students will pick one from four pictures A, B, D, and C, which represents their built creation. Students can rotate their construction and look at it from different angles. The manual offers different ideas for Steku constructor's pieces, so they can be used to solve mathematical equations and problems.

All of the exercises - www.stekuworld.com/math

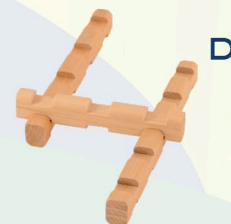
SPATIAL PERCEPTION

The teacher hands out to the students a certain number of bricks and, with some guidance from the teacher, the children build a foreshown construction. When the construction is finished, the students will pick one from four pictures which has an image on it that they get by bending or turning their own construction. Students can rotate their construction and look at it from different angles.

ALL YOU NEED

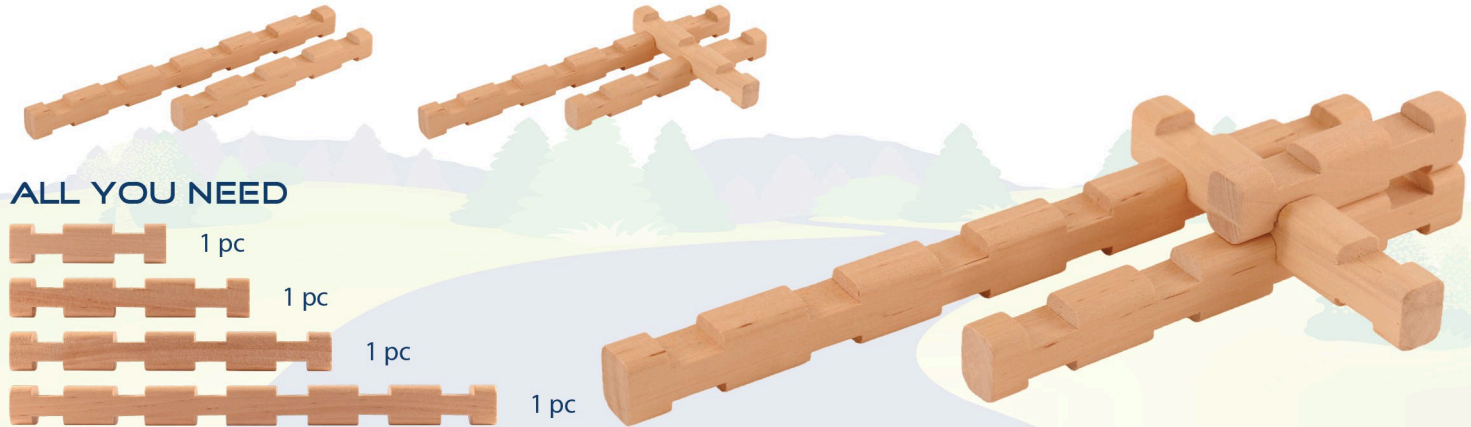


Choose from the following images the one that is created by rotating the construction.

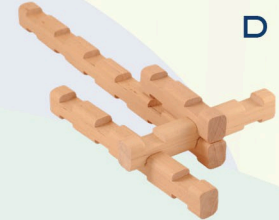
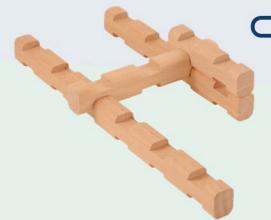
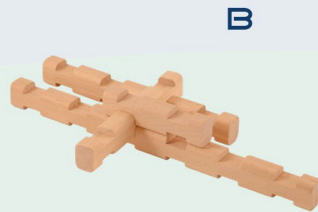
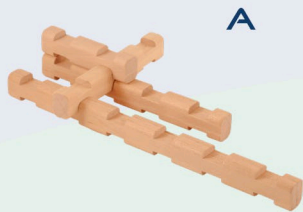


Right answer - C

SPATIAL PERCEPTION 2



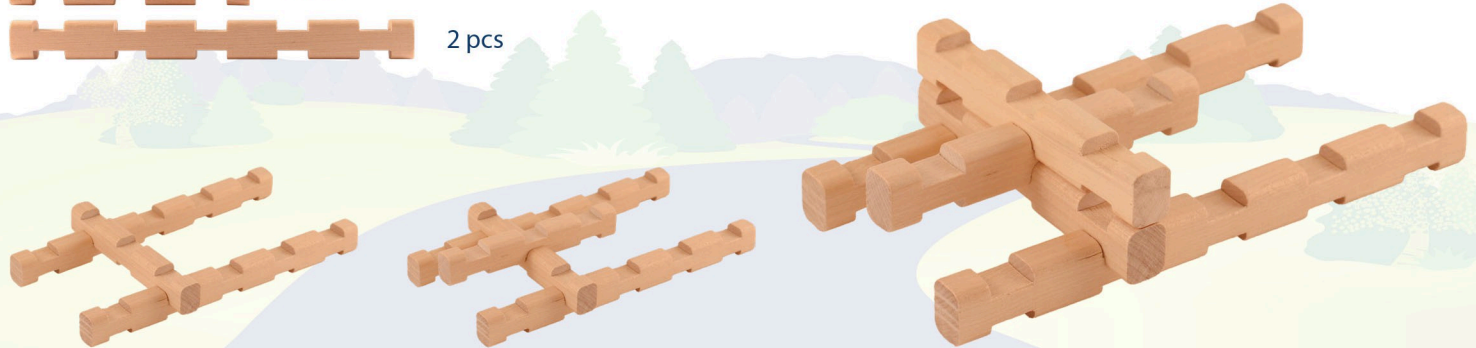
Choose from the following images the one that is created by rotating the construction.



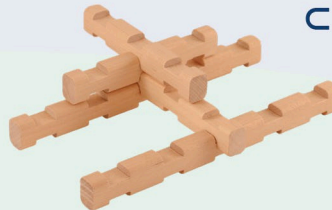
Right answer - A

SPATIAL PERCEPTION 3

ALL YOU NEED



Choose from the following images the one that is created by rotating the construction.



Right answer - D

SPATIAL PERCEPTION 4

ALL YOU NEED



2 pcs



1 pc



2 pcs



2 pcs



Choose from the following images the one that is created by rotating the construction.



Right answer - C

SPATIAL PERCEPTION 5

ALL YOU NEED



1 pc



1 pc



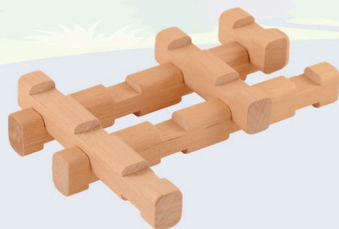
1 pc



2 pcs



1 pc



Choose from the following images the one that is created by rotating the construction.

A



B



C



D

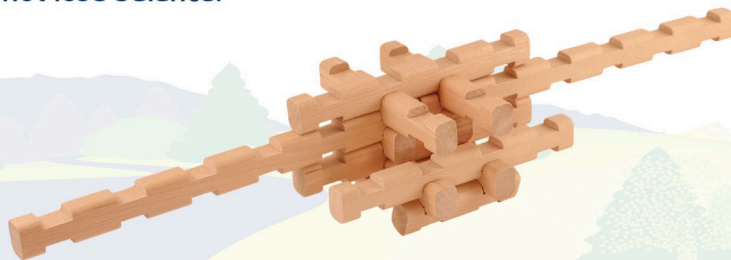


Right answer - B

THE LONGEST

The child or a kindergarten group is given an equal amount of pieces. The winner is the one who has the longest construction which is built on a stand and does not lose balance.

The stand is made out of four pieces.

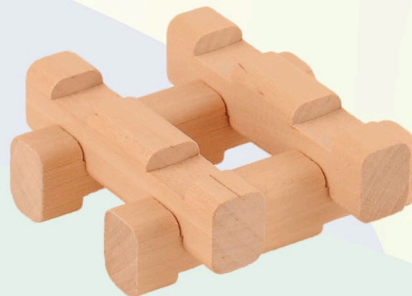


The construction shown on the picture has a length of 12

THE HIGHEST

The child or a kindergarten group is given a certain amount of pieces. The winner is the one who has successfully built on a stand the highest construction.

The stand is made out of four pieces.



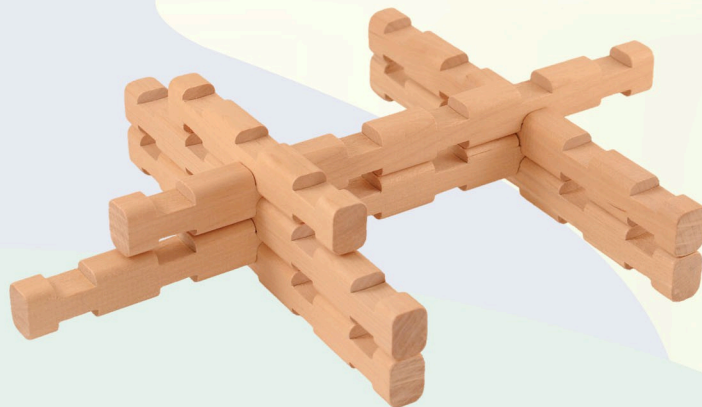
ADDITION

Look at the figure! Create a similar construction with pieces that are longer by two notches!



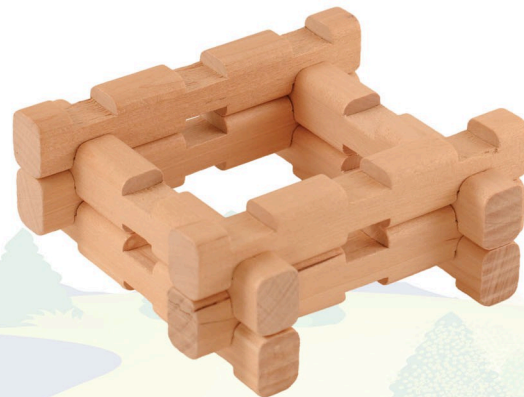
SUBSTRACTION

Look at the figure! Create a similar construction with pieces that are shorter by two notches!



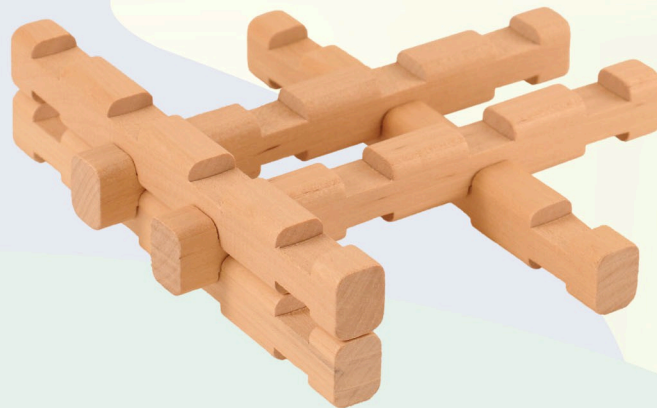
MULTIPLYING

Look at the figure! Create a similar construction with pieces that are two times longer.



DIVISION

Look at the figure! Create a similar construction with pieces that are two times shorter.



PROBLEMS

TASK 1

Three-notched pieces have notches on them that sum up 6 and one-notched pieces have notches that sum up 8.

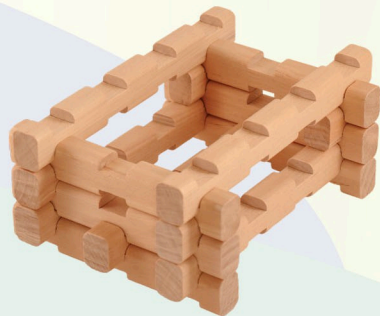
Calculate how many pieces can you use? Build the motorcycle shown on the picture!



TASK 2

Four-notched pieces have notches on them that sum up 20, three-notched pieces have notches on them that sum up 18 and one-notched pieces have notches that sum up 4.

Calculate how many pieces can you use? Build the doll bed shown on the picture!

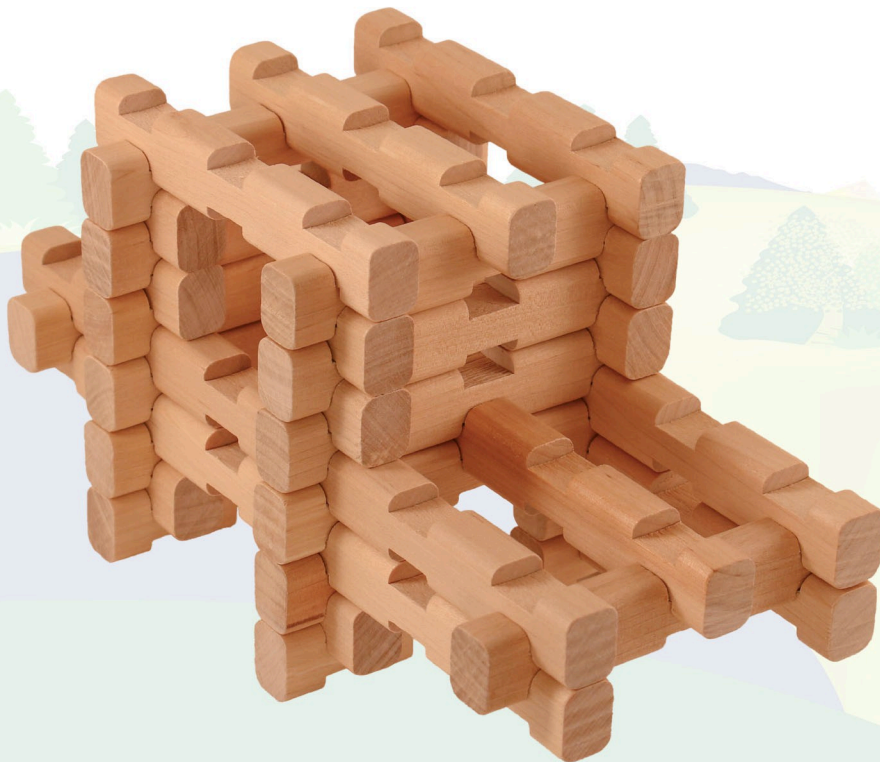


PROBLEMS

TASK 3

Triple-notched pieces have notches which sum up 39, six-notched pieces have notches which sum up 30 and one-notch pieces have notches which sum up 20.

Calculate how many pieces can you use? Build the car a shown on the picture!





Stekuworld is the tradename of Intecon OÜ - a small Estonian company that designs and manufactures high quality construction kits and other educational toys from wood.

We manufacture all our products in our own workshops in the small rural town of Kilingi-Nõmme. Estonia has a long history of producing wooden articles and woodworking and forestry are particularly strong in and around Kilingi-Nõmme.

We strongly believe that the only way we can absolutely guarantee both product quality and that no-one was harmed or exploited in producing our toys is to make them all ourselves. This way we know that the highest EU labour, environmental and health & safety standards were maintained throughout the production chain. We could not be certain of this if we followed many mainstream producers and subcontracted manufacture elsewhere.

Every piece of timber used in these kits comes from responsibly harvested and verified sources, which are certified by the Forestry Stewardship Council and the Rainforest Alliance. We take a lot of care in selecting the timber we use and are so confident of it.

We are approved by the Forestry Stewardship Council and Rainforest Alliance who audit our processes and certify that we use only approved timber. Our FSC registration code is; FSC-C106391 (FSC 100%). Naturally all the other materials and processes we use are as sustainably sourced and eco-friendly as we can possibly manage.



BLUE 40



BLUE 90



BLUE 170



BLUE 260



BLUE 170
COLOUR



BLUE 260
COLOUR



Warning:
Not suitable for children
under 3 years.
Small parts might be swallowed.
Store in dry, warm rooms.



Producer:
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Info@stekuworld.com; www.stekuworld.com
Made in EU. This product meets requirements of Directive 2009/48/EC