AKFS NEWSLETTER

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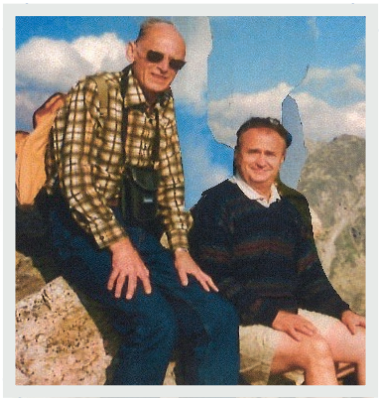
Association Kangourou Sans Frontiéres

Joanna Matthiesen

Hello and welcome to our third Kangourou sans Frontières Newsletter

Meike Akveld
News from The President

Angelo Lissoni
XXX Meeting in Cervia



The beginnings of the Kangaroo

Andre Deledicq

Thousands of interesting and beautiful problems!

Anne-Gunn Svorkmo

Kengi's Quest
Dima Nikolenkov

Evolution to Education 4.0: The STEAME School of the future

Prof. Gregory Makrides

Teachers' workshop for Kangaroo Problems

Özgür Özdemir

www.aksf.org

Hello and welcome to our third Kangourou sans Frontières Newsletter.

Joanna Matthiesen

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I am delighted to write this short introduction to our third edition of the AKSF newsletter. It is a busy season for all of us as we prepare for the summit of our year: the Kangaroo competition day. Let me thank all the members who found time this winter to write an article or share an idea on something interesting as it relates to Mathematics and Math Kangaroo happenings.

Allow me to list again the topics that are of a special interest to many Math Kangaroo members – it would be wonderful if you could share with us your thoughts on:

- How you proctor Math Kangaroo students in a safe, legal, and non-invasive
- How you promote Math Kangaroo in your country in a measurable way?
- What incentives have you used successfully to increase Math Kangaroo participation?

The Math Kangaroo Day is approaching quickly. Each year we receive many electronic thank you notes from parents, students, and teachers. They share with us the importance of the Math Kangaroo competition and various ways that their students and children prepare each year.

Let me share some of their inspiring messages with you. From the parents of Vikhyath and Advaith in Bellevue, WA: "*Our kids have been taking these* test for five years now and we would *like to take this opportunity to applaud the Math Kangaroo question authors for consistently coming up with such fun and engaging questions year after year. The quality and style of the questions really puts Math Kangaroo contest in a league of its own.*"And, here is another from Monique in New York: "*I know that all the young people that went through the Math Kangaroo program benefited tremendously. In my own three sons I see how they have learned how to overcome "brain freeze" and the challenge of an unknown problem. They have been exposed to a variety of Math problems. They have been made aware of the greater community of students - with whom they will work and compete. I always speak highly of Math Kangaroo and promote it at all the schools we are at.*"

Finally, here is another from the mother of Anirudth in Cumming, GA: "*Just a fun fact, my son is hooked to the Math Kangaroo questions. Every single day after school, both of us try to solve at least 10 questions, which is our mini competition. Not only both of us are spending quality time together but it feels like we are playing a thrilling game. The questions start easy but progressively get harder and keep us deeply engaged. I feel if not anything else, it most definitely is building up his critical analytical abilities. That's the best life skill he can acquire and keep at it.*"

> ***"I wish all of you a wonderful Kangaroo Day. We are planning the next edition of the Newsletter for June 2022."***

Sincerely yours in the Spirit of Math Kangaroo,
Joanna Matthiesen
AKSF Newsletter Editor in Chief

These positive letters from parents (shared with written permission) demonstrate how the hard work and creativity of our authors and leadership teams is appreciated by the people we serve. Indeed, among many things, Math Kangaroo represents the joy of solving math questions that often have deep connections to the real world and our daily lives.

If you have a topic that you would like to write about, an interesting math event to promote, or even a noble person in your country that you would like to pay tribute to as a great Kangaroo contributor – feel free to contact me with your proposal. As always – feedback and recommendations on newsletter content and improvement is welcomed.

News from The President

Meike Akveld
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Dear Kangaroo Friends,

It is a great pleasure to write this article for our third AKSF Newsletter. I am so pleased that again we managed to get a great collection of wonderful and interesting articles.

I am also very happy about the great problems we selected in Antwerp and which are – at the moment of writing - in the process of being translated in so many languages (do we actually know how many?).
Did you notice that the proposing countries were mentioned in the PDF with the solutions? Perhaps you want to use this information somewhere in or around the competition in your country. It once more shows the internationality of our competition and also the common spirit and passion to produce beautiful mathematics.

At the last General Assembly there was some ambiguity about "when a majority is met". I apologize from my side for not having been informed well enough. I should have known.

In the meantime, I spoke to André Deledicq, our honourary president, and to our lawyer in Paris and she gave me a crash course "Voting under French law" which I will now share with you!

Crash course "How to vote correctly according to French law?"

Who can vote?

The following paragraph is cited from our Bylaws:
§13.1 Voting rights are reserved to active members.

This means that at our meetings only active members i.e., full, and provisional members can vote. The voting is done by their local representatives.

What is a "proxy"?

If the local representative of a full or provisional member is not present at the meeting, then he / she can appoint a proxy. This is a person that is present at the meeting i.e. this can be another participant from the same country or a participant from a different country. The proxy should be given per email to the Vice President, using the form for appointing a representative for voting, before the meeting starts (at least one week before the beginning of the current Annual Meeting). In case of a proxy, we say the member is represented.

What's meant by "quorum"?

The following paragraph is cited from our Bylaws:

§13.2 The General Assembly's deliberations are valid only if, upon the first convocation, at least half of the active members are present or represented. If this quorum is not met, the General Assembly is convened with the same agenda within one day after the first meeting. During the second meeting, it can validly deliberate

regardless of the number of active members present or represented. Subject to Articles 4.1, 13.3 and 15.1, the General Assembly's deliberations are adopted by the majority of the active members present or represented.

This is the reason why we always need to determine the number of members present or represented before we can start the meeting and do any voting.

How do you determine "a majority"?

Once the quorum is met, (or the meeting postponed in the unlikely situation that the quorum is not met) most motions, proposals etc. that are discussed need a majority. This means that if there are more "yes" than "no" the motion is accepted. In other words, abstentions and members that do not vote are not taken into account. In the unlikely event of a draw the motion is not accepted.

When do you need "a 2/3 majority"?

Only for very few decisions a 2/3 majority is needed, namely

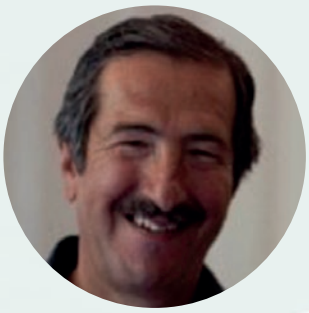
- To approve new members (i.e. applicants that become provisional members)
- To approve provisional members to become full members
- To approve honourary members
- To modify the Bylaws
- In case of a dissolution of the Association

Note that the exclusion of a member only needs a simple majority. The 2/3 majority is computed the same way as the simple majority.

I hope this solves any ambiguities and uncertainties we may face in the future and should make our voting process easy and transparent.

Take care and stay healthy!
Yours,
Meike Akveld
AKSF President

XXX Annual Meeting of the AKSF October 5 - 9, 2022



Angelo Lissoni
lissoni@kangourou.it

Dear Kangourou Family,

I'm writing this article on January 6th, 2022. Because of the ongoing pandemic, we are compelled to plan a hybrid meeting as it happened in 2021. For that reason, this announcement mimics the Bart's one of the last year. Certainly, we hope things will get better in the next months, so that everyone will be allowed to attend the meeting in person.

For in situ participants the meeting will be held in Cervia (near Ravenna, on the Adriatic Sea) from Wednesday October 5th, 2022 (arrival day) to Sunday October 9th, 2022 (departure day). Those participants who cannot travel to Italy will have a chance to attend the meeting online from Thursday October 6th to Saturday October 8th.

The meeting includes the preparation and selection of problems for the Kangaroo challenge 2023 and the General Assembly of the Association Kangourou Sans Frontières. A provisional programme can be found at www.ksf2022.it.

The meeting will be held at the hotels of the Emmehotels Group (www.emmehotels.com). The accommodation will be also provided at these hotels.

Participation fee

The participation fee for in situ participants is €450 per person (1st and 2nd person) and €750 (3rd and 4th person) in a single room accommodation. A single room accommodation may not be available for everyone, especially for an accompanying person. The participation fee is €300 per person (1st and 2nd person), €600 (3rd and 4th person), €600 (others and accompanying persons) in a double room accommodation.

Cervia Harbour during the IRONMAN triathlon.

The fee covers board and lodging, coffee breaks and refreshments for in situ participants from the evening of October 5th to the morning of October 9th. It also covers transfers from and to Bologna Airport (on the official arrival and departure days) and the meeting resources.

No participation fee is requested for the online participants.

The participants will be asked to pay for any additional requested accommodation, food requirements, for transfers if different than October 5th and October 9th, for most personal drinks and for additional services in their rooms. All participants are expected to have their own accident, health, and travel insurance.

Registration of participants and payment

The financial risk for the organizers is enormous. Moreover, the number of in situ participants that we can accommodate is limited due to COVID-19 regulations.

You can register the participants of your delegation online at **www.ksf-support.org** from June 5th until July 30th, 2022.

After July 30th, it will neither be possible to register extra participants nor to cancel any registration.

The conference fee must be paid by bank transfer before July 30th, 2022. The conference fee is not refundable. We kindly ask you to check with your personal travel insurance in case the meeting is cancelled. Nevertheless, the already paid conference participation fee can be transferred and substituted to a different person.

More details about the Kangaroo meeting can be found at **www.ksf2022.it**. Please watch our invitation video.

More details

- The hotels are located in front of the sea or at a short distance from it.
- Romagna cuisine is known all over the world: just think about lasagne, tagliatelle, tortellini... .
- Ravenna was the capital of an Empire three times. It was the capital city of the Western Roman Empire from 402 A.D. until the empire collapsed in 476. It then served as the capital of the Ostrogothic Kingdom until it was re-conquered in 540 by the Byzantine Empire.
- Ravenna is the capital of mosaic art.
- Eight early Christian monuments of Ravenna are present on the World Heritage List. These are
- Orthodox Baptistry also called Baptistry of Neon (c. 430)
- Mausoleum of Galla Placidia (c. 430)
- Arian Baptistry (c. 500)
- Archiepiscopal Chapel (c. 500)
- Basilica of Sant'Apollinare Nuovo (c. 500)
- Mausoleum of Theodoric (520)
- Basilica of San Vitale (548)
- Basilica of Sant'Apollinare in Classe (549)
- Italy has been named “The Economist‘s country of the year 2021”.

We very much look forward to welcoming you in Cervia.

The beginnings of the Kangaroo

Andre Deledicq
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Once upon a time in Australia, there was a teacher, Peter O'Holloran, who loved mathematics and enjoyed challenging young children. In 1978, almost half a century ago, he invented a contest that quickly became very popular on his continent: The Australian Mathematics Competition.
In the form of computer-corrected MCQs, almost all Australian students took part in them in the late 1980s.

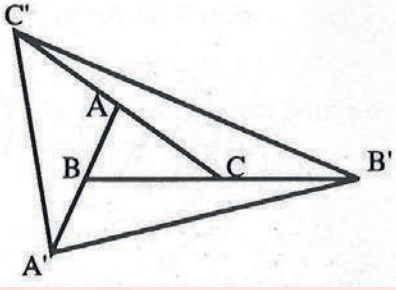
In 1990, two French professors, Jean-Pierre Boudine and André Deledicq, met with Peter Taylor, head of the CMA. Enthusiastic and determined, they understand that this type of competition can multiply the actions they have been taking for years to popularize mathematics among as many young people as possible.
And they decided to create a similar competition in France. In homage to their Australian colleagues, they call it The Kangaroo of mathematics: the first Kangaroo game-contest is thus held on May 15, 1991.

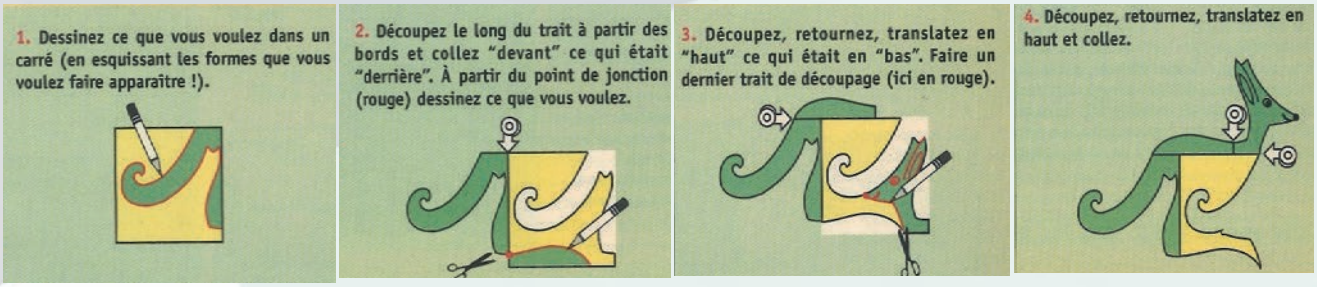
The first poster of the Kangourou contest, with the paver logo invented by Raoul Raba, sculptor, Prix de Rome 1955.

Today, the questions of our subjects are the result of the work of dozens of professors from all countries who propose, judge, improve and choose together some 200 questions out of nearly 2000 proposed and studied at our annual meetings.
This ensures the emergence of clever questions, nicely characteristic of our discipline and quality recognized by many professional mathematicians.
Certainly the 90 questions of the first competition did not all have the originality, pedagogical relevance or intelligence of those of today; for curiosity, however, here is the question number 30 of the youngest subject of this first competition:

(30) Un triangle ABC non plat étant donné,
soit A' le symétrique de A par rapport à B,
B' le symétrique de B par rapport à C,
C' le symétrique de C par rapport à A.
L'aire de A'B'C' vaut combien de fois l'aire de ABC ?

A) 3 fois B) 4 fois C) 5 fois
D) 6 fois E) 7 fois





The exchange is indeed one of the essential components of the DNA of the Kangaroo; the exchange of intellectual pleasure, experience and knowledge, the meeting of others, which was first of all that of professors from East and West, before being one of math lovers from all over the world.
Throughout the history of the Kangaroo, the laureates have often won meetings with other laureates, whether from the same country or from different countries.
Since 1993, Polish kangaroos have welcomed, in Zakopane in the Karpathes, groups of French laureates first, then other European countries.
In the following, meetings were organized in Hungary, Bulgaria, Romania, Spain, full of friendship, tourism and mathematics...

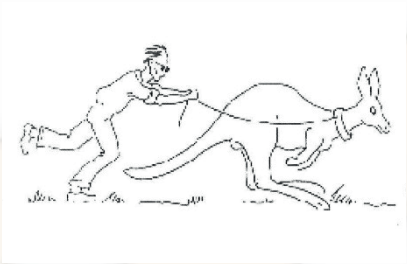
Symbolically, here, a French laureate feeds, with kindness and circumspection, the Australian fauna.

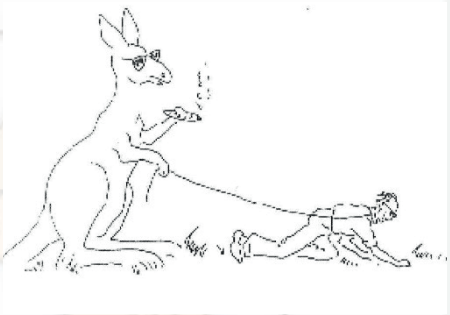
A group of laureates in the ascent of the Giewont, Pawek Jarek and André Deledicq.

After two years of success, in May 1993, André Deledicq and Claude Deschamps wanted to show their creation to a few colleagues, professors and competition organizers from several European countries. Many were responsible for the International Mathematical Olympiads. They invited them to Paris, gave them a tour of the participating classes and discussed the issues raised; Jean-Christophe Deledicq then ensured the translation of the debates into French, English and Russian (which he then did brilliantly for about ten years).
All were impressed by the organization of the competition in the classes visited on this occasion, by the number of participants and by the overall operation at the Teams of teachers from seven countries, interested and motivated, decided to organize the competition in 1994; this was done in Belarus, Hungary, the Netherlands, Poland, Romania, Russia and Spain.
An international contest, aimed at young people from all countries, promoting the spread of a basic mathematical culture, based on problem-solving, had just been born!
What strikes most in the beginnings of the Kangaroo is the extraordinary speed with which it grows in some countries. In France, its spectacular development was not exponential (let's stay mathematicians); in Poland, on the other hand, Pawel Jarek is amazed at the growth of his Kangaroo and translates it with humour, thanks to his talent as a draughtsman:

In June 1994, the French Kangaroo team brought together teachers from a dozen countries, in Strasbourg, under the aegis of the Council of Europe. They decided to found the Association Kangourou Sans Frontières (AKSF) whose statutes were registered in Paris on 17 January 1995.

Debut in France…
1992 : 5000 participants,
1993 : 17 000





1994 : 52.000
1995 : 120.000
1996 : 280.000

To make himself better known, the Kangaroo had asked for illustrations from a young talented artist, Charb. He lost his life in the attack on Charlie Hebdo in Paris in January 2015.

In all its beginnings and for a few more years, the French leaders of Kangourou, including André, Jean-Christophe and Jean-Philippe Deledicq, Claude Deschamps and Rachel Hebenstreit, helped to organize the annual meeting, the French Kangaroo providing significant financial support.

In January 1995, in Paris, the problems of the next competition were, for the first time, discussed in international working groups. And it was decided that the problems posed in all the participating countries should be the same and that the competition should take place on the same day, the third Thursday of each month, from the following year.

In 1996, more than one million students from 17 countries took part in the Kangaroo, including 620,000 in France. The competition was then offered in five levels: Schoolboy (about 8 to 10 years), Benjamin (10 to 12 years), Cadet (12 to 14 years), Junior (14 to 16 years) and Student (16 to 19 years).

The habit of annual meetings was then instituted, with the aim of preparing and choosing the subjects of the following year for all the member countries of the association.
But they are also an opportunity for an active exchange of ideas concerning the promotion of the competition, its organisation, the design of the prizes and the documents accompanying the competition, the awarding of prizes, as well as the practice of contacts with the ministries, national institutions and sponsors.

The first Board of Directors of the Kangourou Sans Frontières association, in Paris in 1995.
From left to right, Pawel Jarek, Poland; Gregor Dolinar, Slovenia; Claude Deschamps, France; Yan Donkers, Netherlands; André Deledicq, (president of KSF)

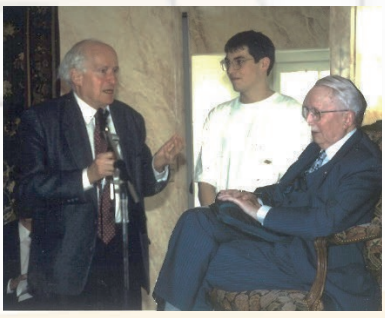
During these annual meetings, many materials and experiences are exchanged in a studious and warm atmosphere: we work hard for three or four days, but we also cultivate ourselves (visits, meals, concerts, ballets, operas, etc.).
We experience with happiness the reality of fruitful cooperation, the sharing of knowledge and the warmth of friendships that develop.
A family is born: the Kangaroo family!

Here are the cities and countries that hosted our annual Kangaroo Meeting in the last century:

... in 1995, in Eindhoven, the Netherlands,
... in 1996, in Torun, Poland,
... in 1997, in Budapest, Hungary,
... in 1998, in Ljublana, Slovenia,
... in 1999, in Valladolid, Spain,
... in 2000, in Celakovice, Czech Republic

The Kangaroo family, on the threshold of the 21st century, in Valladolid.

In all countries, the Kangaroo is always welcomed with sympathy and interest by the major scientific institutions, national and international.
Below on the left, Professor Alessio Figali, Fields Medal 2018, interviewed by our president Meike Akweld on what he thinks of the Kangaroo and its contribution to propagate a positive and motivating image of mathematics.
On the right, in July 1993 in France, the Kangourou laureates (here the Kangourou Junior laureate) were received at the Académie des Sciences by the academicians Laurent Schwartz and Henri Cartan.



Thousands of interesting and beautiful problems!

Anne-Gunn Svorkmo
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A few years ago, I spoke with a teacher who compared the kangaroo problems to a treasure chest. Why this special comparison I asked? She said: «The problems enrich my teaching and simultaneously engage and motivate the students for mathematics. My students find the tasks both fun and challenging at the same time. When students work on the problems and cooperate to choose the right alternative, a discussion starts in a group and then continues across the groups. It is a great opportunity for me as a teacher to support and challenge the students' mathematical discussion in the class. It rarely happens when the students work with other types of tasks».

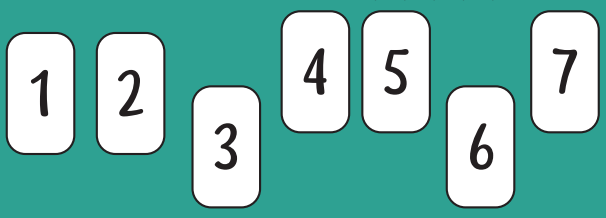
Many teachers in Norway use problems from the Kangaroo Competition in ordinary mathematics teaching, and this teacher was one of them. Our organization's purpose is to promote mathematics among young people around the world. In my opinion, the teachers could be included in this context.

I will write about what team Norway does with the large database of all the wonderful and interesting problems we have made together for many years. How do we in Norway try to inspire and encourage teachers to use Kangaroo problems in their math classes? In this article, I will give three examples. Perhaps one of these ideas could be interesting for your country too.

Since we became a member in 2004, we have written small articles where we either have pointed out a Kangaroo problem for a specific reason or put the spotlight on a mathematical concept exemplified by some of the problems. We are also keen on making the idea behind a problem visible to the teacher. Being aware of the mathematical idea, teachers can adapt a kangaroo problem to their students by making the problem easier or more challenging. This has also been the content in some of the articles. I will show one example and perhaps you can remember this very nice problem from some years ago.

This problem with seven cards in a box from 2008 is a special one because the same version of the problem was selected for both Ecolier, Benjamin, and Cadet. If I am not mistaken, it was also selected for Junior and Student. During the annual meeting, I remember some of you were concerned that members in the Ecolier group had chosen such a difficult task for the youngest students. Being a member of that group, I had voted to include this problem in the set.

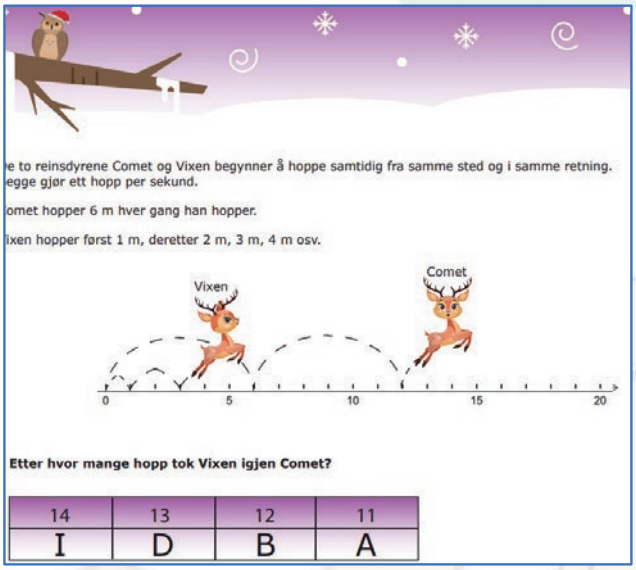
There are seven cards numbered 1, 2, 3, 4, 5, 6 and 7 in a box.



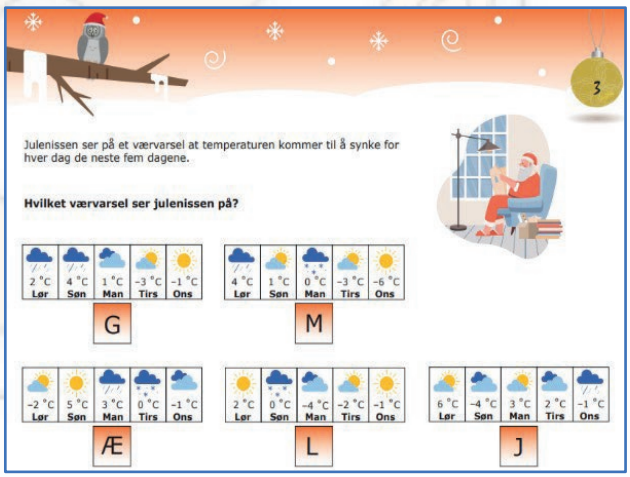
Eva takes 3 cards from the box and Lars takes 2 cards. There are now 2 cards left in the box. Eva looks at her cards and says: "Lars I know the sum of your cards is even". What is the sum of Eva's cards?

After the competition period was over, I visited a school to figure out how students aged 10 and 11 years old solved this specific problem. Some of the students explained their thinking to me and in that way, I got an insight into how young students can reason to find the answer. I wrote down the students' remarks. In the article The card-problem I used the remarks, looked at students' different ways of reasoning, and argued for young students ways of reasoning.

This beautiful problem is suitable for students at this age, not for everyone of course, but many of them. I think it was reasonable for members working in the Ecolier group back in 2008 to choose the card problem as the last problem in the set.
In this article, I will also mention the calendars we have made of problems from our common database. For students from kindergarten up to the first year of upper secondary school, we have made mathematical Christmas calendars. In some of the problems, the context is changed to fit the season and we have made new pictures with colors. There are many Santa Clauses, snowmen, and reindeers in our calendars! Each of them consists of twelve problems and every calendar is adapted for students at different levels.



Every alternative is marked with a letter and after solving all the problems in a set, students have to mix the twelve letters and make a word. We encourage groups of students to work together on the problems and the whole class can cooperate to find the right word for their calendar. If the students send the keyword to us, they can win small prizes.
Do you recognize some of these three problems?
The problem with the jumping reindeers is an idea from Cadet in 2016. The original was of course with jumping kangaroos.



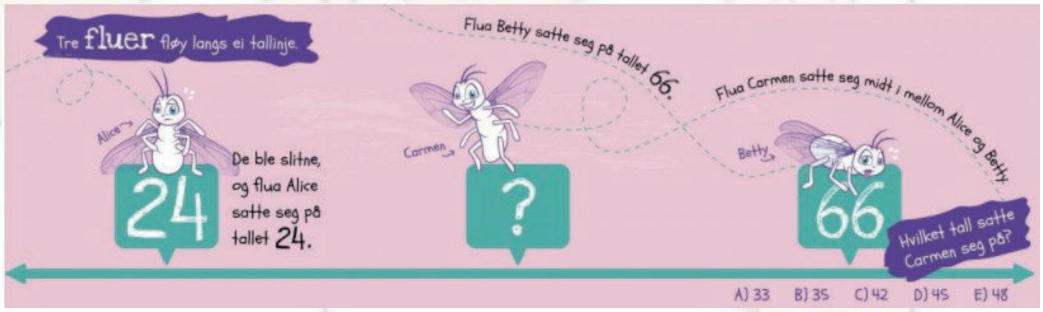
The one with snowmen is a problem from 2020.

The problem with Santa Claus reading the newspaper is originally a 3-point problem from Cadet 2021. The original is about Sven who looks at the weather app and notices that from day to day the predicted maximum temperature drops during the next five days. Sven is here replaced with Santa Claus.

At last, I will share the idea about the milk boxes. My presentation in Chicago was about the same thing, but not all of you were present at that meeting.
The Norwegian team wants students to have access to the Kangaroo problems and especially those students that for some reason do not join the competition. Some years ago I got the opportunity to print Kangaroo problems on small boxes of milk that students can buy at school. It is the same conductor for almost the whole country, so this was a great chance to spread and make the problems visible to very many students.
These boxes with milk are specially made for students in primary school and generally, they are covered with pictures and information about vitamins and healthy food among other things. The conductor was going to make a new design on these boxes and due to them, the time was at that point right to cover the boxes with mathematical problems.
To adjust problems to a small bx was not easy, so from our database, I had to choose problems with very little text. I could only use three sides of each box. The pictures below are how the three sides of a box look like.
I loved working with the problems in a new way! I had to confirm each problem into a series of three pictures and the pictures should support the student's understanding of the problem. Cooperating with a designer was also a great pleasure and she intended to put humor into the pictures to make the students curious and interesting in the problems. I hope you notice the humor in the pictures below! The Kangaroo problem on each milk box looks like a cartoon and it is another way to express an interesting and nice mathematical idea.

This problem is about the tripplets and their elder brother. The question is: Which of the numbers below can be the sum of the ages of the four brothers? Please notice all the small details in the pictures.

This problem is one of my favorites, the flies on the number line! Even though the text is in Norwegian I think you do understand what the question is.



Summarizing my writing here I agree, the kangaroo problems are examples of a treasure chest. Promoting mathematics among young people around the world is our main goal. Inspiring teachers to engage and motivate students through the beauty of our math kangaroo problems is another great purpose and the joy we can all share together.

Kengi's Quest

Dima Nikolenkov
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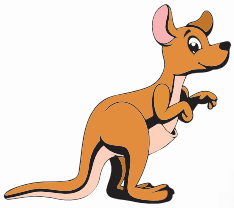
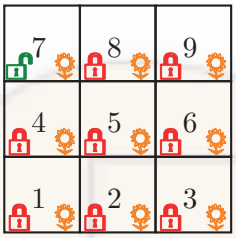
Kengi is trying to bring a bouquet of flowers to his sweetheart Kenga. Each flower is held by a lock. There are nine locks, numbered with the digits 1 through 9. To collect all the flowers, Kengi must open the locks in a peculiar way. Each lock opens only if the two-digit number built by the previous digit and the current digit is divisible by 7 or by 13.

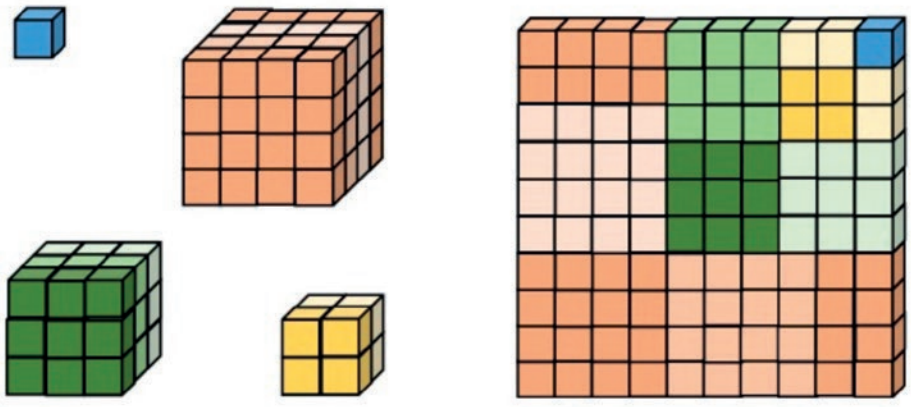
The first lock is open. Kengi can only reach his sweetheart if opens ALL 9 locks. Help Kengi choose the correct order of locks so that he can get through and bring all 9 flowers to Kenga





Proof without words..

$$1^3 + 2^3 + 3^3 + \cdots + n^3 = (1 + 2 + 3 + \cdots + n)^2$$



Evolution to Education 4.0 : The STEAME School of the Future

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The project "STEAME: Guidelines for Developing and Implementing STEAME Schools" is ending on 31 December 2021. However, it seems that the ending of this project could be the kick-off of a paradigm shift to Education 4.0 as it provides what steps Education Systems all around the world could follow in order to escape from Education 2.0 and change to Education 4.0 with learning based on inquiry and project based learning. Literature and research has been showing for years now that this should be the way forward in order to help school students develop the needed competences and skills that appear to lack when they enter HE studies or enter the world of work. With today's development of digital learning most of the learning needed by school students can be easily accessible or retrieved at any time and place.

STEAME (Science -Technology– Engineering - Arts - Mathematics - Entrepreneurship) has been developed to support European teachers' knowledge and understanding of creating successful STEAME learning and creativity programs. It offers approaches to teaching, teaching materials, entrepreneurship aspects, organizational suggestions for STEAME-oriented teaching, propositions and analysis of STEAME-oriented curriculum. All the OERs of the project are available through the STEAME Observatory. As an observatory, it is designed to be adaptive and dynamic, able to support a dynamic and adaptive STEAME Curriculum in any school that needs to implement STEAME activities in the learning process.
The process of adding and updating the content is a continuous one, providing the opportunity to all teachers across the EU and beyond to be up to date and to share and publish their own work if they wish to.

1. STEAME PROJECT OUTPUTS
2. LEARNING & CREATIVITY ACTIVITIES/PLANS GRADES 7-9 (COLLECTION) LEARNING & CREATIVITY PLANS WITH RELATED MATERIAL
3. LEARNING & CREATIVITY ACTIVITIES/PLANS GRADES 10-12 (COLLECTION) LEARNING & CREATIVITY PLANS WITH RELATED MATERIAL
4. STEAME SCHOOL SITES LINKS
5. STEM → STEAM → STEAME COURSES
6. Journal of STEAME Creations for and by School students
7. STEM-STEAM-STEAME EU FUNDED PROJECTS
8. EXPERIMENTS OR SCHOOL PROJECTS/CREATIONS & LINKS TO VIDEOS, SITES GRADES 7-9
9. EXPERIMENTS OR SCHOOL PROJECTS/CREATIONS & LINKS TO VIDEOS, SITES GRADES 10-12
10. STEAME EVENTS
11. STEAME INFOGRAPHICS
12. STEAME COMPETITIONS
13. PHOTOS & VIDEOS OF STEAME SCHOOLS

The STEAME Framework consists of the following elements:

1.Learning and Creative Methodologies (PBL-IBL-PSL)
2.Guide to Science Communication as a skill for students
3.Guide to Learning and Creative(L&C) Plan Development, including a
And L&C Plan Template
4.Evaluation Rubric for implementing of a project
5.Observatory (Guide to dynamic and adaptive STEAME material)

Methodologies adopted by the STEAME framework (PBL, IBL, PSL)
The following three methodologies are adopted by the STEAME framework:
A.Project-Based Learning Methodology (PBL)
B.Inquiry-Based Learning Methodology (IBL)
C.Problem Solving Learning Methodology (PSL)
D.A guided method to L&C Plans development with an 18 steps prototype procedure in supporting project based work of student groups, moderated and supported by at least two teachers of different disciplines.

The project, based on an International investigation, a European wide survey and based on focus groups with teachers and experts, Associate partners and through its consortium creative work, has developed guidelines for STEAME school organization structures covering actions for existing schools and actions for future schools. Below we present indicative photos of the design of the STEAME School of the future. The project, before the end of 2021, will publish in its website www.steame.eu , a full detailed content and designs of the STEAME School of the future.

A top view of the design of the school fully energy self-sustainable with photovoltaics

A side view of the school one basement, ground floor, first floor and roof

The basement main content is a full set of STEAME Laboratories, VR rooms and entrances to the main amphitheatre and sports centre.
The ground floor contains mainly satellite laboratories, open work space, learning stations and base entries into the small amphitheatres, reception entrance and main dual reception of the sports centre, one entrance for the school students during the day and another entrance for the community during the night, the access to the internal yard and cafeteria and more.
The first floor contains open work space, learning centres, learning rooms, a slow moving train with space for group student work, entry into amphitheatres and more.

The roof contains, photovoltaics, pool recreation area, circular sport field, sports courts, roof cafeteria and restaurant and more.

*Prof. Gregory Makrides, PhD, Coordinator of the project STEAME,
President of the Cyprus Mathematical Society, Professor of STEAME Education at the Pedagogical University of Krakow, Poland, Vice-chair of the Education Committee of the European Mathematical Society, President of THALES Foundation.

Coming Up Math Related Events

On March 14, the live celebration of International Mathematics Day will take place, and you're invited! Throughout the 48 hours of the celebration, we'll be liveblogging your pictures and videos from International Mathematics Day (IDM) events around the world, posters, announcements, and more. The main event of our online launch will be a series of short talks for a general audience about mathematics and how mathematics connects. The program will be posted soon on the IDM website (idm314.org).

EUROMATH & EUROSCIENCE 2022 School student Conference
June 27 – July 1, 2022, Grand Hotel Palace, Thessaloniki, Greece
www.euromath.org

2nd European STEAME Conference 2022
June 27 – July 1, 2022, Grand Hotel Palace, Thessaloniki, Greece
www.steame.eu
Direct link:
https://steame.eu/european-steame-conference-2/

The 9th WFNMC congress
July 19 – 25, 2022
www.wfnmc.org
and
WFNMC 9 | 9th Congress of the World Federation of National Mathematics Competitions (bas.bg)
(www.math.bas.bg/omi/wfnmc9/)

KANGOUROU STEAME Summer Camp and Conference 2022
July 25 – 30, 2022, Rodon Mount Resort, Agros, Cyprus
www.thalescyprus.com
Direct link:
https://thalescyprus.com/?page_id=1604

Teacher's Workshop for Kangaroo problems

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Perhaps the strongest aspect of the Kangaroo Math Contest is that it produces original and creative mathematical problems every year. In fact, it is in the nature of Kangaroo: since the very beginning, the purpose of Kangaroo Math competition is to increase interest in mathematics through interesting questions. Mathematicians who work on Kangaroo Mathematics also produce with this passion and purpose, and every year beautiful and interesting problems emerge. It is very important to create highly creative mathematical problems, and it is equally important to deliver such interesting mathematical problems to students in the healthiest way possible.

It is very important to pay attention to a number of points, from the writing of our creative and interesting questions to the structure of the choices. Otherwise, the question will not have a meaningful contribution in terms of measurement and evaluation, and its original content may not be fully understood. In particular, preserving the originality of the questions in the translation process requires a kind of "literary" skill, and these translations must be checked several times.

Kangaroo Mathematics workshop in İstanbul

As the Kangaru Mathematics Turkey family, we aim to make significant contributions to this process with the Teacher's Workshops we have started to ensure that both the question writing and question evaluation processes run more healthily. Our teachers participating in the workshop closely monitor and discuss the process from the emergence of an "interesting" question idea to a question that reaches the student in the competition. Thus, they become more experienced both while generating new questions in this way and evaluating the questions produced. In the workshops organized with the contribution of our academicians working on Measurement and Evaluation in the Faculty of Education of universities, evaluations and discussions on interesting mathematical problems are carried out with our teachers. We think that the evaluation reports we plan to publish on Kangaroo Mathematics problems will also provide important feedback for us. By continuing our Teacher's Workshops, we aim to create opportunities for our teachers, who deliver Kangaroo Mathematics Competitions to students, to take a closer look at these interesting Kangaroo problems and to produce similar problems. With this opportunity, we would like to thank the academics who researched and evaluated the creative and interesting aspects of Kangaroo Mathematical Problems with our teachers.

MATH KANGAROO DAY

17.03.2022

AKSF Meeting

05. 10. 2022 - 09. 10. 2022

Cervia - Italy