

Matematik

Lärarinformation

Genomförande av delprov A
Berättelsen
Självbedömning

ENGELSK VERSION

ÅRSKURS

3

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1. Genomförande av delprov A

Delprov A är en muntlig uppgift som genomförs i grupper om 3–4 elever.

Tabell 3. Praktisk information

Delprov	Tidsåtgång	Material
Delprov A	20–30 minuter per elevgrupp inklusive instruktioner	Kopieringsunderlag samt instruktioner Underlag: Vilka tre hör ihop I, II och III Frågekort

Beskrivning av delprovet

Nedan finns instruktioner för genomförandet av delprov A, som handlar om problemlösning och att kommunicera och resonera matematik muntligt samt använda begrepp inom taluppfattning och tals användning.

Genom undervisningen i ämnet matematik ska eleverna sammanfattningsvis ges förutsättningar att utveckla sin förmåga att

- formulera och lösa problem med hjälp av matematik samt värdera valda strategier och metoder
- använda och analysera matematiska begrepp och samband mellan begrepp
- föra och följa matematiska resonemang
- använda matematikens uttrycksformer för att samtala om, argumentera och redogöra för frågeställningar, beräkningar och slutsatser.

Uppgifterna kan hänföras till följande delar av kunskapskravet:

- Eleven kan lösa enkla problem i elevnära situationer genom att välja och använda någon strategi med viss anpassning till problemets karaktär. Eleven beskriver tillvägagångssätt och ger enkla omdömen om resultatens rimlighet.
- Eleven har grundläggande kunskaper om matematiska begrepp och visar det genom att använda dem i vanligt förekommande sammanhang på ett i huvudsak fungerande sätt. Eleven kan beskriva begreppens egenskaper med hjälp av symboler [...]. Eleven kan även ge exempel på hur några begrepp relaterar till varandra. Eleven har grundläggande kunskaper om naturliga tal och kan visa det genom att beskriva tals inbördes relation [...].
- Eleven kan beskriva och samtala om tillvägagångssätt på ett i huvudsak fungerande sätt och använder då [...] symboler och andra matematiska uttrycksformer med viss anpassning till sammanhanget. Eleven kan föra och följa matematiska resonemang [...] genom att ställa och besvara frågor som i huvudsak hör till ämnet.

Organisation av genomförandet på skolan

Eleverna ska arbeta i grupper om 3–4 elever. Tänk igenom på vilket sätt grupperna sätts samman så att eleverna har störst möjlighet att visa sina kunskaper på bästa sätt. Om läraren bedömer att det är lämpligare för någon elev att genomföra

delprov A enskilt med läraren är det möjligt. Man bör dock vara medveten om att det begränsar elevens möjlighet att föra och följa resonemang.

För att kunna följa elevernas arbete bör du enbart observera en grupp åt gången. Bedömningsunderlaget finns som kopieringsunderlag i häftet *Bedömningsanvisningar*. Markera i bedömningsunderlaget för varje elev vad hon eller han visar. Använd ett bedömningsunderlag för varje grupp.

Som stöd för genomförandet av uppgiften och bedömningen av elevernas prestationer finns i häftet *Bedömningsanvisningar* kapitel 2, exempel på autentiska elevcitrat inom respektive förmåga som avses att provas. Samtliga citat bedöms vara på en godtagbar nivå.

Det kan vara svårt att hinna med att skriva ned vad eleverna samtalar om, därför kan det vara bra att spela in elevernas samtal. Om det inte finns möjlighet att spela in är det viktigt att läraren under tiden eller direkt efteråt skriver ned vilket kunnande eleven visat. För att uppmuntra kommunikationen mellan eleverna och ge alla elever möjlighet att komma till tals, är det viktigt att följdfrågor ställs. Exempel på följdfrågor finns i detta häfte under *Genomförande vid provtillfället*. Det som ska sägas till eleverna står inom citationstecken.

I denna uppgift är det viktigaste att eleverna får möjlighet att kommunicera och resonera med varandra, inte att komma fram till rätt svar. Under tiden som eleverna diskuterar ska läraren observera för att få underlag till sin bedömning. Om en elev inte deltar eller får tillräckligt med talutrymme i gruppen är det viktigt att detta uppmärksammas och att en fråga riktas direkt till berörd elev.

Lärarens förberedelser

Innan delprovet genomförs bör läraren göra följande:

- Läsa igenom *Lärarinformation* samt *Bedömningsanvisningar* för delprov A.

En förutsättning för delprovets genomförande är att läraren är väl insatt i hur uppgiften ska genomföras och hur elevernas prestationer ska bedömas. Därför kan det vara lämpligt att pröva uppgiften tillsammans med kollegor innan delprovet genomförs med elever.

Uppgiften består av tre delmoment och eleverna har möjlighet att visa sina kunskaper i uppgiftens alla tre delar. Det är viktigt att få elevernas resonemang att inkludera både de rutor som hör ihop och den ruta som inte hör ihop. ”Jag tycker den här rutan för att ..., de andra rutorna ...” eller ”De här rutorna hör ihop för att ..., den här (fjärde) rutan har inte ...”.

Till uppgiften behövs:

- underlagen Vilka tre hör ihop, I, II och III
- utklippta frågekort
- bedömningsunderlag kopierade, ett per grupp.

På följande sidor finns genomförandet beskrivet. Dessa sidor kan med fördel kopieras för att ha med som stöd vid genomförandet.

Genomförande vid provtillfället

Introduktion till elevmaterialet

“In this task, you are going to work together and reason and discuss with each other. To reason and discuss means that you will be thinking out loud together, describing what it is you are thinking and why. It is important that everyone in the group participates and that you demonstrate your knowledge of mathematics. This task consists of three parts. In each part there are four boxes with numbers and symbols. You are to try to figure out how three boxes belong together and how one box does not belong with the others. You must also explain why.”

Instruktion till läraren

Vilka tre hör ihop I

1. Lägg fram underlaget *Vilka tre hör ihop I* på bordet.

“Here are four boxes with numbers and symbols. These are numbers and these are symbols.” Peka på talen och tecknen i uttrycket.

“Look at the numbers and the symbols in these boxes. How can three boxes belong together and one not belong with the other three? There may be several explanations as to why one box does not belong with the other three. It is important that you describe both how the three boxes belong together and how one does not belong with the other three. Take a moment to look and think individually first.”

Låt eleverna få tid att titta på rutorna.

2. Börja med att rikta uppmärksamheten till tre rutor. ”Is there any explanation as to why these three boxes belong together but not that box?” Fråga eleverna om det är någon som vill börja berätta.

Det kan vara andra elever som har tänkt på samma ruta både av samma anledning eller av en annan anledning. Fråga eleverna ”Does anyone have a different explanation for the same box?” Om en elev säger att den tycker likadant som någon annan ber du ändå eleven att motivera med egna ord.

Fortsätt sedan på samma sätt med resten av rutorna.

Exempel på följdfrågor:

- In what way does the box not belong with the others?
- For some boxes there are several explanations. Can you find more explanations?
- Does anyone disagree?

Observera att om eleverna inte själva kommer på att talen i tre av rutorna är jämna och talen i en av rutorna är udda får du beskriva begreppen jämna och udda för eleverna.

Vilka tre hör ihop II

1. Lägg fram underlaget *Vilka tre hör ihop II* på bordet.

“Look at the numbers and the symbols in these boxes. Now you must work together as a group to think of as many explanations as you can for why three boxes belong together and one does not belong with the others. Take a moment to look and think individually first before discussing and reasoning with each other.”

Låt eleverna få tid att titta på rutorna.

2. “I will now be quiet. It is your turn to discuss and reason.” Låt eleverna börja diskutera och resonera med varandra.

Exempel på följdfrågor:

- In what way does the box not belong with the others?
- Can you find another explanation?
- Does anyone disagree?

Vilka tre hör ihop III

Lägg fram underlaget *Vilka tre hör ihop III* på bordet.

1. “Here Nova, Troj and their two friends have suggested how three boxes belong together and how one box does not belong with the others. I have their suggestions here.” (Håll upp korten.)

“As a group, you will discuss and reason together as to whether the suggestions are correct or incorrect. Suggestions that are correct can be placed next to the appropriate box and suggestions that are not correct can be placed on the table.” (För förtydligande se *Bedömningsanvisningar* s. 8.)

2. Läs ett förslag högt och ge sedan kortet till en av eleverna. Be eleven läsa det högt igen och låt eleverna sedan diskutera och resonera tillsammans tills de har kommit fram till ett gemensamt beslut. Fortsätt till dess att alla kort är slut.

Exempel på följdfrågor:

- How can you know that?
- Why?
- Does anyone disagree?

Om mer underlag för bedömning behövs finns följande frågor att använda:

- What is the difference between addition and subtraction?
- Can you explain hundreds, tens and units?
- How do you know that a number contains hundreds, tens and units?
- What do sum and difference mean?
- Can you explain term with some other word?
- What is an odd number? Can you explain or give an example?

Observera att om eleverna inte själva vet eller kan resonera sig fram till vad term är får du beskriva det begreppet för eleverna.

2. The Story – “The Journey”

Introduction

“Good morning, 3B,” says Nicolas, the class teacher. “Hurry up and sit down now, so we can get started with our morning meeting. We’ve got a lot to talk about today. It’s only a week until we head off on our journey.”

Nova and Troj’s class has won first prize in a story-writing competition. It had been organised by a train company. The train company is planning to publish a magazine for children. The magazine will then be distributed on all its trains, so that children have something to read and do while they’re travelling. The company already provides a magazine for adults on all its trains, and then someone realised that there should also be a magazine for children. The class won the competition because they had written several stories that the train company thought were very good. The pupils had been asked to write the stories together in groups of three.

“I actually think that our stories turned out so well precisely because we wrote them together,” says Nova.

“It is fun that the train company also wants us to come up with more things that can be included in the magazine,” Troj continues. For example, we can develop different games, brainteasers, riddles or other activities that we think kids travelling by train would find fun to do.

“Exactly!” says Nicolas. “Think about what you think these could be. The plan is that you all discuss this and work on it during the journey itself. Feel free to bring some games, for example.”

Naturally, the journey the class has won is a train trip. But it is a quite an unusual train journey, because it will be on a small train with a locomotive and just two carriages. The class will be the only passengers on this particular train – no one else will be on board. The train will stop in a few places along the way, where they will be able to get off for a while and then continue on their journey. The journey will last a good many hours, and when they arrive at their final destination they will spend the night in a large house on a pretty farm.

Since only the class will be on the train, the engine driver has promised that everyone will be able to come up to visit her in the locomotive, to see what things look like from the driver’s seat. But only a few pupils may go at a time. The driver has a soft spot for riddles, so when they go up to see her, they will receive a clue to a riddle.

Nicolas goes through a list of things that everyone needs to remember to pack. Each pupil should bring at least two books, one or more stuffed animals, coloured pencils, a flashlight, and warm clothing. Pyjamas, a toothbrush and general sleepover supplies should also be packed. It would also be great if everyone can bring along various games and other activities to pass the time while travelling by train, so that they can come up with many different suggestions that they can write about in the magazine. The pupils must also bring a packed lunch, because they will be eating lunch on the road.

“But,” Nicolas concludes, “the day of our journey is a school day, so we’ll also need to work a bit during the trip.”

Part B

It is almost completely silent in the train carriage. Nicolas has decided that it is reading time, so all the pupils are quietly reading the books that they have brought with them. After reading for a while, their teacher asks them to find a good place to stop and then put down their books. Nicolas informs the children of whose turn it is to visit the driver and see what it looks like in the locomotive – and also get a clue to a riddle.

“Now those of you who have brought coloured pencils can go get them,” says Nicolas. “If anyone forgot to bring them, I’ve got some extra. I’m going to ask you all to write, draw, or paint various kinds of patterns. Think about what we’ve worked on in school, and remember that there are many, many different kinds of patterns. Make as many different ones as you can think of – preferably some that are easy and some that are more difficult. First make a pattern on your own, and then you can work together and come up with more. Maybe some of our patterns could even work well in the train magazine in the future.”

In recent weeks, the pupils have been working with patterns in school – both during their math lessons and in art class. Some of them were even inspired to continue working with patterns during their leisure-time centre as well. Nicolas hands out paper, and the children throw themselves enthusiastically into their work. They really do come up with a vast array of patterns. The pupils walk around looking at each other’s patterns and helping their classmates to come up with more. Troj makes patterns with numbers and Nova makes patterns with different figures. Amir has filled his entire sheet of paper with large and small sunflowers and pine cones.

“That’s not a pattern, is it?” says Hanna as she peers at Amir’s drawings.

“Sure it is,” says Amir. “At least it has to do with patterns,” he continues. “I’m thinking about that movie we watched.”

“Oh, yeah,” says Hanna. “You mean the one with that old man who had figured out that there were lots of patterns in nature, too?”

“Exactly,” replies Amir. “But what was his name again?”

They try to remember, coming up with many variations – Faralassi, Fasonetti, Finalanti. Then they start giggling because they can’t think of the right name and because they all sound so funny. The more they go on, the more they giggle. In the end, everyone starts laughing. Just then, the kids who went to visit the driver return.

“What’s everybody laughing about?” asks Leo.

“They’re trying to figure out the name of the man we saw in the film about patterns in nature,” replies Nova. “But everything just sounds funny.”

Finally, Nicolas provides the answer. “His name was Fibonacci.”

Then everyone starts giggling again because now that sounds funny, too.

Part C

At one end of the train carriage is a large box. It contains fruit, beverages and other snacks that the children have brought with them to eat. Everyone is free to go and help themselves whenever they feel a craving for something.

“Now don’t forget to eat some fruit,” says Nicolas. “There’s quite a lot in the box.”

The pupils try to make up some different games and other activities that are well-suited to train travel. Now it’s time for a few more kids to head up to the locomotive and visit the driver. After a while, Nicolas says that everyone should get out the stuffed animals they were asked to bring with them.

“Well, I’ve brought six,” proclaims Hanna. “It was so hard to choose – I have so many of them, of course. I took the little ones, and my favourite of course,” she adds.

Several of the pupils have brought more than one stuffed animal.

“Well, it’s no wonder that some of you have such big bags with you,” laughs Nicolas. “You’ll have to think for a little while and then pick just one of them.”

“Oh, I’m so glad I only brought one,” says Nova. “That way I won’t have to choose. I only have three at home anyway. They’re all my favourites.”

Once everyone has pulled out a stuffed animal, they are asked to tell the person they’re sitting next to a bit about their furry friend. Whether it has a name, when they got it, why they like it and whether they have any particular memories involving this stuffed animal. Then they will switch places and tell someone else. The pupils find it fun to share things about their stuffed animals and to hear about their classmates’ stuffed animals.

“You know what I’ve been thinking?” says Nova as she turns to Troj, who is currently sitting next to her.

“No, what?” asks Troj.

“I think it might be a good idea to have stuffed animals with us in case anyone finds it a bit scary to spend the night away from home,” Nova continues. “I actually think that’s right. I’m not that used to doing that. But of course you’re here, too – and I’ve slept over at your house, at least I did one time. So maybe it won’t be so scary after all.”

“I’ve spent lots of nights away from home,” says Troj. “So now it’s not scary anymore. But I remember the first time I did it. At first I thought it was going to be super fun. But then that night I wanted to go home.”

Several of the other pupils have overheard what Nova and Troj are talking about, and soon many of them want to tell their classmates about the first time they spent the night away from home. Like Troj, several of them changed their minds and wanted to go home when evening came.

In any case, they all agree that it doesn’t feel nearly as scary this time, when the whole class will be doing it together.

“We have our stuffed animals, too,” notes Nova.

Part D

The train chugs through a beautiful, varied landscape of meadows, forests, mountains and lakes. A few times it passes through small farming villages, while on other occasions it traverses slightly larger cities with buildings of all sizes.

The pupils are free to decide what they want to do for a while. Some read, others play games, and some just sit and talk. Three pupils have gone up to the front of the train to see what things look like in the locomotive. Like everyone else who has been to visit her, they return with a clue to a riddle.

“Nicolas, how much longer until we meet my Grandpa?” Nova calls out.

Nicolas glances at his watch and says they have a bit more than an hour to go. Nova’s grandpa is so eager to meet Nova’s classmates that he is taking another train and meeting them at a station where they are scheduled to make a brief stop.

“Oh, I can’t wait to see Grandpa!” says Nova with a sigh. “It’s been so long since I saw him. We’ve only been talking over the computer. It’s not as much fun, even though you can still see each other and talk.”

“I can’t believe he’s coming so far just to see our class for a little while,” says Troj.

“Yes, it’s probably just because I’ve talked so much about the class and this trip,” Nova replies. “Imagine if he could’ve come with us – that would’ve been fun!” she continues. “But he had to take care of his fruit shop, so he was only able take some time off during the day.”

“Oh, the fruit shop,” says Troj. “Remember last summer when we got to help him in the store? That was fun. Especially when we got to weigh different things.”

“Yeah, it was so cool that you got to come with me to visit him,” says Nova.

Nova, Troj and a few of their classmates play games for a while and time flies. Suddenly Nicolas gets up and asks everyone to be prepared for a stop where they will all get off the train for a little while. When the train pulls into the station, they see that Nova’s grandpa is already standing there waiting. He is holding a large box. Everyone crowds toward the exit, eager to be first in line to get off the train and meet Nova’s grandpa.

“Oh, my! Settle down, there!” Nova’s grandpa calls out when they reach him. “Not all at once! I’ll stand up here on the stairs and you can all stand right down there so that I can see you better.

Nova’s grandpa ascends a small staircase so that he has a better view of the entire class.

“Oh, it’s so great to see you all in the flesh,” he says, smiling. “I’ve only seen you in pictures – and of course Nova has told me a lot about each of you. Now let’s see, you must be Milo,” he says, pointing to Milo. “You over there – you’re Hanna, and you have to be Erik,” he continues, pointing.

“Then who am I, who am I?” several of the pupils ask, shouting over each other.

It turns out that Nova’s grandpa knows the names of everyone in the entire class. He has borrowed a class photo from Nova and has been training for several days, teaching himself all their names.

“Oh, wow,” says Grandpa again. “Just think if you all could come visit me. Then you could help me in the fruit shop, weighing different things and packing fruit.”

The big box that Grandpa brought with him is brimming with fruit which they will all get to enjoy for the rest of their journey.

“Even more fruit!” laughs Nicolas. “But it’ll disappear – these kids love fruit and it seems like there’s no limit to how much of it they can eat.”

“Excellent,” replies Grandpa as he hands the big box to Nicolas.

Just before it’s time to get back on the train and continue their journey, Nicolas shouts that the class should line up so he can take a headcount. He also tells the children that when they get on the train, they should go sit down in new seats that he has chosen for them, so that they don’t just sit with the same classmate the entire trip. Everyone gets back on the train and searches for their new seats. As the train slowly begins to roll out of the station, they all wave through their windows at Nova’s grandpa, who is standing and waving goodbye with his whole arms.

Part E

Now it’s time for one of the stops they are scheduled to make during their journey. Nicolas tells his pupils that they will be visiting a small nearby farm. There are many animals there that they will get to look at. They will also eat their packed lunch on the farm.

“Before you get off, I want everyone...” but Nicolas doesn’t even get the chance to finish his sentence before the entire class chimes in:

“Everyone *to wash their hands carefully and for a long time*, they all shout in unison.

“Yes, yes, I know I’m a nag,” laughs Nicolas.

When they arrive at the farm, a woman comes to meet them.

“Welcome, welcome!” she says. “Oh, how lovely that you’re visiting my little farm. You can just call me ‘the Farmer’ – everyone does,” laughs the woman. “I’ve certainly heard about you – that you’re the wonderful writers who have written so many great stories that will be published in magazines for children to read when they travel by train. In fact, I was the one who tipped off the train company that they should have a magazine for children too, not just one for adults. The idea struck me when my grandson and I were on a trip together. I got a magazine to read, but there was no magazine for him. I hope you’ve come up with some fun games, riddles and other activities that can also be included?”

The pupils share all the ideas and suggestions they have developed and everything they have done so far during their journey. Everyone is hungry, so before they go look explore the farm and check out all the animals, they will start by eating their packed lunch in a large room that has been prepared for them. The farmer has also put out a lot of treats for them to taste, such as biscuits and fruit. They are even welcome to take the leftovers with them to enjoy during the rest of their journey.

There are many different types of animals on the farm, including horses, cows, rabbits, chickens and sheep. In front of a small building, some kittens and puppies play with each other. After a while it is time to get back on the train and continue the journey. On the way, the class walks past a small shop.

“My packed lunch wasn’t quite enough to fill me up,” says Troj. I think I’ll buy something extra.”

“You’re always hungry,” laughs Nova. “Well, I’ll buy apples then.”

“Ha, ha, ha” laughs Troj. “You’re always craving fruit.”

“It’s probably my Grandpa’s fault,” says Nova, chuckling too.

Part F

Nova sits on the train, gazing out the window.

“Hey, Nova,” says Troj, but he receives no answer.

“Hellooo, Nova!” He tries again, a little louder this time.

Finally Nova responds. “Mm?”

“Are you sleeping or what?” laughs Troj.

“Nah, I was just thinking a bit. I was trying to figure out something that’s been on my mind. Have you noticed that there are such high numbers on all the seats?”

“No,” replies Troj, looking for the number on his seat.

“At first I thought it was strange,” Nova continues. “But then I realised that maybe it’s because sometimes it’s a long, long train with lots of carriages and tons of seats. So I tried to count up how many carriages there could be, but it was a bit difficult to figure out.”

“I think that sounds super hard,” says Troj. “How do you come up with all the stuff you’re always counting?”

“I don’t know. It just, like, happens,” laughs Nova. “How do you think of all the stories you make up and write? I think that’s hard.”

“I don’t know, it just, like, happens,” says Troj, imitating Nova. They both giggle a little.

“I was actually thinking about something else,” Troj continues. “I happened to get a look inside your bag before. Why did you bring stones?” he asks.

“They’re from my collection,” Nova replies. “You know I collect stones, don’t you? I’ve got tons of them at home. Although I only brought a few – the ones that are my lucky travel stones. I thought maybe we could make up some kind of game with them.”

“Oh,” says Troj, sighing a little. “Then I could have brought some of my erasers that I collect. I think I have more than a hundred at home.”

Some of the other children have overheard Nova and Troj talking about their collections. Suddenly everyone starts talking about different things that they collect. Several kids collect erasers, some collect marbles, and others collect various kinds of pictures, such as football photos. Nicolas walks down the aisle of the train carriage.

“Nicolas,” says Nova, stopping him. “Do you collect anything?”

“Hm... responds Nicolas, pondering the question. “Do I collect anything? No, I don’t think I really do. But when I was a kid, I collected hockey photos. Well, wait – I know what I collect,” he continues.” I actually collect nice memories.”

“Huh?” says Troj. “You can’t collect memories, can you? How many do you have, then?” he continues, looking a bit quizzical.

“Well, I think you can collect them,” says Nicolas, smiling. “I have lots of nice memories in my collection. Whenever I’m a little bored, I can try to pull out a nice memory and think about it instead. For example, I think this journey with all of you will be a very nice memory to add to my collection.”

Part G

“I’ve just been up to have a chat with the driver,” says Nicolas. “We’ve all been sitting still for quite some time now, so I think you need to get outside and move around a bit. We’ve decided to stop for a little while so we can get off the train. But before we stop, I want everyone to check the book you’ve been reading and see how many pages there are in the book. I want you to write down the number of pages on a piece of paper” Nicolas continues and gives the pupils one piece of paper each.

“Huh?” wonders Troj. “How come?” he continues, but nonetheless he pulls out his book and does as Nicolas says.

“So, has everyone written down how many pages there are in your book?” Nicolas asks.

“I bet we’re going to have calculate something later,” Nova whispers to Troj.

When all the pupils have exited the train Nicolas says: “I want you to put your piece of paper in my basket and in a minute I want you to all line up in a row, just as if you were standing in a queue.”

“In what order?” asks Nova. “Not according to birthdays, like you told us to that one time?” she continues. Several of the pupils start laughing. “Do you remember what a mess it was before Nicolas came out and explained what he meant? Some of us thought we were supposed to line up according to what month our birthday was in, and some of us thought we were supposed to do it according to the actual day. Everyone just ran around switching places.”

“No, we’re not going to repeat that little fiasco,” says Nicolas, laughing too. “Today you’ll draw a piece of paper from the basket and line up according to the number of pages that are written on your piece of paper. The one with the most pages should stand at the back and the one with the fewest pages will stand at the front.”

All the pupils draw a piece of paper from the basket and after a little while, the pupils understand what they are supposed to do and start talking to each other and comparing the number of pages in their books, determining who should be last in line, second to last, and so on.

“That went great,” says Nicolas once everyone has finally found their place in line.

Nicolas points to a meadow a little ways off and says he thinks everyone should run a few laps there. Those who wish to can run to the front of the line. As they head back to the train, Nicolas says that he wants everyone to consider *roughly* how many pages there might be in *all* the pupils’ books all together.

“I told you,” Nova whispers to Troj. “I knew he was going to ask us to try to calculate something.” “Typical Nicolas,” she adds. She looks at Troj, who nods knowingly.

Conclusion

“Now it’s only about 40 minutes until we get there,” says Nova.

“Wow, how do you know that?” wonders Troj.

“I can see it on the clock, of course,” Nova replies, laughing.

“Yes, of course,” says Troj. “Although I find it kinda hard. It’s a good thing I can ask you.”

“Do you know where Nicolas is?” asks Nova.

“No, I haven’t seen him for a really long time,” says Troj.

They ask their classmates, but no one has seen Nicolas in quite a while.

“Oh, look there,” shouts Amir, pointing up at the luggage rack. “That weird hat’s disappeared!”

In the course of their journey, several of the pupils have wondered whose strange hat it was, but no one knew.

“Nicolas’s bag is gone, too!” says Erik, pointing to where all the other bags are stacked. “He couldn’t have gotten off – we haven’t even stopped for ages.”

“What if someone’s used magic to make Nicolas disappear?” says Hanna.

The pupils spread out, shouting for Nicolas and checking in the train’s lavatories – but their teacher is nowhere to be found. Then the door to the locomotive opens and out comes... a magician, clad in a hat and cape. But he certainly looks a lot like Nicolas. The stunned pupils fall completely silent. The magician strolls quickly to the middle of the carriage and unfolds a tiny table. Then he actually starts to do magic! Nicolas does several impressive magic tricks. Some tricks don’t go quite as well, and he mumbles to himself that he’s probably kind of forgotten how to do them. Afterwards he receives applause and everyone wants to know how he learned to do magic. Nicolas tells his pupils that he actually worked as a magician before he became a teacher.

“But why didn’t you ever tell us?” asks Troj.

“I wanted to save it as a surprise for some special occasion,” smiles Nicolas.

Nicolas changes back to his normal clothes. They'd all better hurry – they'll be there soon. When the train arrives at the final station of the journey, several of the pupils' parents are standing there, waiting to greet them. The parents have made a large sign emblazoned with the words "Welcome 3B". Now it is these parents who will join the class for the rest of the day and act as chaperones during their overnight stay. Nicolas is heading home to his family. He thanks the class for a wonderfully fun journey together.

"You see? Now I've got another really nice memory to put in my collection."



3. Kopieringsunderlag

I det här kapitlet finns följande kopieringsunderlag att använda vid genomförandet av provet.

- **Kopieringsunderlag 1: Self-assessment – Me and mathematics**

Self-assessment – Me and mathematics

Colour the clouds
with the colour that
best matches how
you feel when you
are going to ...

green = sure
yellow = fairly sure
blue = not sure

... estimate
the weight
of something

... use a written
method of
calculation

... solve
a math problem

Me and mathematics

... divide
the number 90
in different ways

... follow
and repeat
a pattern

... explain what
units, tens and
hundreds are

... work out
something in your head,
for example $20 - 13$

... show which
arithmetic operation
you are going to use
in your working

Name: _____

