



basic education

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REPUBLIC OF SOUTH AFRICA

Grade 3 Mathematics Mental Starters Assessment Project (MSAP)

Mental Starters: Tasks and Assessments

TEACHER GUIDE: ISINDEBELE



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ISINGENISO

Umhlahlandlela kaTitjhere lo umumethe **amayunithi asi-6 weemFundo ezithomako weemMbalo zeHloko** zabafundi beGreyidi yesi-3. **Iqhinga lokubalisisa** elihlukahlukeneko linqhotjhiswe eyunithini ngayinye. Amaqhinga wokubalisisa lawa asuselwe kukharikhyulamu. Iyunithi ngayinye ihlanganisa isiqhema samakghono athileko akhambelanako.

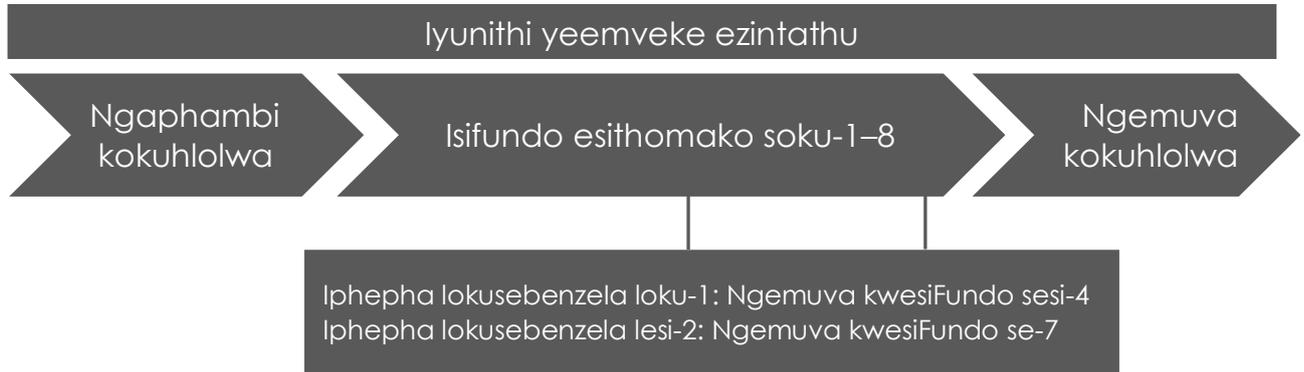
Umnqopho ukususa abafundi ekubaleni ngakunye ngemino yabo nofana ngeembalisi zamathali ephepheni. Ukubala ngakunye kuthatha isikhathi begodu kurholela ekwenzeni iimphoso. Kuba ngokungaphumelelekiko njengombana ububanzi beenomboro bukhula/bungezeleleka. Amaqhinga namakghono asekela umnqondo wenomboro enamandla.

Amaqhinga wokubala asi-6 begodu nokulandelana kwawo ngokuya ngesikhathi Amayunithi atholakala emathemini amathathu wokuthoma njengalawa alandeleko.

IIhemu yoku-1	Ukweyamela et jhumini	$36 + 7 =$		$= 43$		
IIhemu yoku-1	Amaqhinga wokubala ngokweqa	$43 - 12 =$		$= 31$		
IIhemu yesi-2	Ukubuyelela kabili nokuhaf ulla			$= 58$		
IThemu yesi-2	Ukut jhideza et jhumini nokuLungisa	$47 + 29 =$		$= 76$		
IThemu yesi-3	Ukuhlela kabut jha	$26 + 17 + 4 =$		$= 47$		
IThemu yesi-3	Ukuhlobanisa ukuhlanganisa nokukhupha	$\square - 30 = 9$	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="padding: 5px;">30</td> <td style="padding: 5px;">9</td> </tr> </table>	30	9	$= 39$
30	9					
		$30 + 9 = \square$				

Imodeli

Iyunithi ngayinye ineemveke ezintathu ezide begodu ilandela imodeli le:



Iyunithi ngayinye ithoma begodu igcina ngokuhlolwa okufitjhani kwabafundi. Ukutshwaya ukuhlolwa lokhu kunikela wena nabafundi ilwazi lokobana bathuthuke kangangani ekusetjenzisweni kwesede yamakghono athileko ngesikhathi esiziimveke ezintathu.

Eyunithini ngayinye, kunqotjhiswe emihlotjeni emithathu yokubalisisa:



Ukusebenza ngesiFundo esiThomako eyunithini ngayinye netlasi lakho kufanele kurholele ekuthuthukiseni ukusebenza kwabafundi ukusukela ngaphambi kokuhlolwa ukuya ngemuva kokuhlolwa. Ukuthuthuka lokhu kutjengisa iragelo phambili lamakghono weembalo zehloko begodu nelomnqondo wenomboro.

Ungawusebenzisa njani umhlahlandlela lo

Incwajana le inemininingwana yokuhlolwa begodu neemFundo eziThomako zeyunithi ngayinye. IsiFundo esiThomako sitlanye ukulingana **imizuzu eli-10** yezomlomo begodu nesigaba seembalo zehloko ekuthomeni kwesifundo seembalo zakho.

IsiFundo esithomako ngasinye sithoma ngomzuzu mu-1 **wokukhaliphisa umkhumbulo** onqotjhiswe emakghonweni aqakathekileko wokukhumbula masinya eyunithini leyo. Abafundi bafanele baphendule imibuzo leyo masinya nangokuzithemba.

Ukulandelana komsebenzi wesifundo esithomako kulandela ukukhaliphisaa umkhumbulo. Ukulandelana komsebenzi esifundweni esithomako ngasinye kuhlathulula bonyana:

- **Ufundisa bunjani** amaqhinga (kutjengiswe ngesinceleni) begodu
- **Kutlolwa ini** ebhodini (kutjengiswe ngesidleni)

Ngemuva kwesifundo ngasinye esithomako **kunemisebenzi yomfundi ngamunye** abafanele ukuyiqedelela. Abafundi bafanele balinge ukwenza imisebenzi le ngehloko basebenzisa amaqhinga abasanda ukuwafundiswa. Tjela abafundi bonyana **bangabali ngaku-1**. Nakube abafundi bayahluleka, babawe bakutjengise umsebenzi wabo, isib. enambalayini enganalitho, nofana ebha-dayagramini. Imifanekiso yenambalayini begodu neyebha-dayagramu ifanele ibe 'matlhantlha' njengombana umnqopho kukusekela masinya ukusebenza komkhumbulo.

Bawa abafundi **bakuhlathululele imicabanga** yabo begodu neyabanye. Lokhu kuzokuvumela uhlole bonyana bayawasebenzisa na amaqhinga abawafundisiweko.

Amavidiyo asekelako: Manqophana nehlelo lesifundo esithomako ngasinye kunelinki yevidiyo efitjhani etjengisa bonyana amaqhinga asebenza bunjani. Ungayivula ilinki ngoku:-

- Qalisa ikhemera kamaliledinini esikwereni sekhowudi QR nofana
- Thayipha okulandelako: YouTube ku 'web browser'

Ngemuva kwesiFundo sesi-4 begodu nese-7 esithomako, **kunamaphepha womsebenzi womfundi ngamunye wokuzijayeza** angasetjenziswa bafundi ukuzijayeza nabasekhaya.

Amamemorandamu wangaphambi newangemuva kokuhlolwa begodu namaphepha womsebenzi anikelwe ekugcineni komhlahlandlela lo.

Incwadi i-Print Masters

Kunencwajana ye-**PRINT MASTERS** ehlukaniswe ngokulandelako:

- koke ukuzilungiselela/ngaphambi begodu nangemuva kokuhlolwa
- woke amaphepha wemisebenzi eyenziwa wekhaya
- woke amametheriyali agadangisiweko asekela ukufundisa

UKWEYAMELA ETJHUMINI

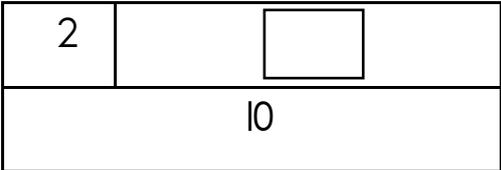
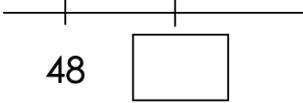
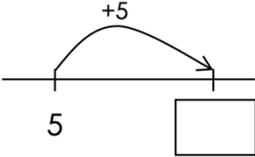
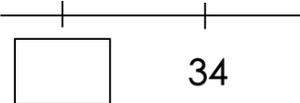
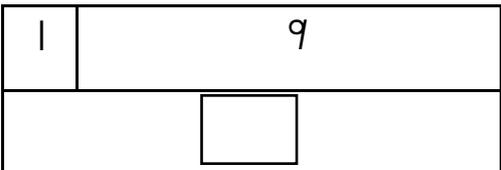
Isingeniso

Umnqopho weemfundo ezithomako zokuthoma ezine ukuhlanganisa ngokweyamela etjhumini. Umnqopho weemfundweni ezithomako ezine ezilandelako, ukukhupha ngokweyamela etjhumini. Eminye yemisebenzi irholwa ngutitjhere ebhodini begodu eminye ngeyokwenziwa bafundi ngokuzijamela.

Amakghono wokukhumbula masinya

Kunamakghono wokukhumbula masinya asithandathu abafundi abafanele bawafunde wokweyamela etjhumini:

- Ukuhlanganiswa kweenomboro ukufika e-10 begodu neembuyabuyelelo ze-10 (isib. $7 + \square = 10$; $12 + \square = 20$)
- Ukuhlanganisa esibuyabuyelelweni setjhumini (isib. $60 + 3 = 63$)
- Ukukhupha eembuyabuyelelweni zetjhumini (isib. $60 - 2 = 58$)
- Ukweqela esibuyabuyelelweni setjhumini **esilandelako** ngemuva kwenomboro (isib. $32 \rightarrow 40$)
- Ukweqela esibuyabuyelelweni setjhumini **esingaphambili** kwenomboro (isib. $56 \rightarrow 50$)
- Ukutjhugulula ukhleleka kokubalisisa (isib. $7 +$ nani kwenza itjhumini? Yini ehlanganiswa ne-7 kwenze itjhumini?)

Igama:	
Ukweyamela eTjhumini: Ngaphambi kokuhlola	
INGCENYE 1	Imizuzu emi-2 yenzelwe ikhasi leli
1. $7 + 3 = \square$	11. $50 + 6 = \square$
2. $2 + 8 = \square$	12. $3 + 60 = \square$
3. $10 = 7 + \square$	13. $40 - 7 = \square$
4. ubu-8 buncani kune-10 ngaku- \square	14. $40 + 8 = \square$
5. 	5. Ngisiphi isibuyabuyelelo se-10 esilandelako? 
6. 	6. $100 + 27 = \square$
7. $10 - 5 = \square$	7. Ngisiphi isibuyabuyelelo se-10 esingaphambili kwama-34? 
8. $10 - 4 = \square$	8. $\square + 7 = 50$
9. 	9. $30 - \square = 27$
10. $\square + 10 = 10$	20. $87 = 80 + \square$
Inani seliloke: 20	

Ukweyamela eTjhumini: Ngaphambi kokuhlola INGQENYE YESI-2 Imizuzu emi-3 yenzelwe ikhasi leli	
1. $56 + 8 = \square$	
2. $83 - 4 = \square$	
3. $93 - 7 = \square$	
4. $67 + \square = 73$	
5. $\square + 7 = 82$	
6. $67 + 5 = 67 + 3 + \square$	
7. $94 - \square = 94 - 4 - 2$	
8. $98 + 56 = 98 + 2 + \square$	
9. $103 - \square = 95$	
10. $98 + \square = 136$	
Inani seliloke: 10	

UKWEYAMELA ETJHUMINI: ISIFUNDO ESITHOMAKO SOKU-1

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Pop-Fizz

Utijhere uthi 'pop' bese abafundi bathi 'fizz'; bese utijhere utjho inomboro, bese abafundi baphendula ngenomboro ekhambelana nekghono lokukhumbula masinya.

a. Pop-Fizz Yenza i-10

Kilobu ubujamo, abafundi bafanele baphendule ngenomboro ezokwenza inani eliyi-10.

- Utijhere : pop → Abafundi: fizz
- Utijhere: 3 → Abafundi: 7
- Utijhere: pop → Abafundi: fizz
- Utijhere: 6 → Abafundi: 4 njalo njalo ...

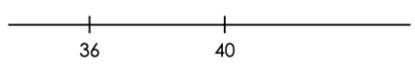
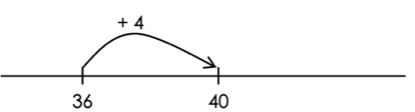
b. Pop-Fizz Yenza ama-20 (nofana esinye isibuyabuyelelo se-10)

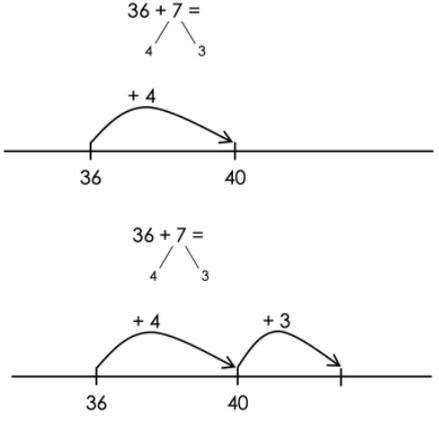
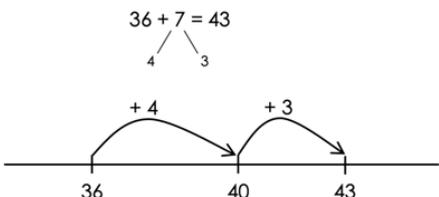
Kilobu ubujamo, abafundi bafanele baphendule ngenomboro ezokwenza inani elima-20 (nofana nanyana ngisiphi isibuyabuyelelo se-10).

- Utijhere: pop → Abafundi: fizz
- Utijhere: 16 → Abafundi: 4
- Utijhere: pop → Abafundi: fizz
- Utijhere: 11 → Abafundi: 9 njalo njalo ...

Ukulandelana komsebenzi

Esifundweni lesi, sisebenzisa amaqhinga wokweyamela etjhumini ukubalisisa ukuhlanganisa.

<p>Umraro: $36 + 7$</p> <p>Tlola '$36 + 7 =$' ebhodini.</p> <p>Thala umuda bese utshwaya iphuzu elilebulwe '36'. Utijhere: Siyahlnganisa ngalendlela sifanele ukweqa ukuya phambili. Siyini isibuyabuyelelo setjhumini esilandelako ngemuva kwama-36?</p> <p>Umfundi ufanele eze azokutshwaya ama-'40' enambalayinini.</p>	<p style="text-align: center;">$36 + 7 =$</p> 
<p>Utijhere: Sifanele seqe ukuya phambili kali-7 sisuka ema-36. Asenzeni umeqo munye ukuya sibuyabuyelelweni setjhumini esilandelako kunokobana kweqiwe ngaku-1. Ama-36 ahlnganiswa nakungaki asiphe ama-40?</p> <p>Abafundi: 4</p>	<p style="text-align: center;">$36 + 7 =$</p> 

<p>Utijhere: Sihlanganise ku-4. Sifanele sihlanganise ne-7. I-7 silihlukanisa ngoku-4 nobani?</p> <p>Abafundi: 3</p> <p>Hlukanisani i-7 ema-36 + 7 libe ngoku-4 noku-3.</p> <p>Utijhere: Kunengi ngakungaki esidinga ukukuhlanganisa?</p> <p>Abafundi: 3</p>	
<p>Utijhere: Ayini ama-40 nakahlanganiswa noku-3?</p> <p>Abafundi: 43</p> <p>Utijhere: Ngokunjalo, $36 + 7 = 36 + 4 + 3 = 43$</p>	

Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjisi balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$48 + 6$ $63 + 8$

Abafundi bafanele bahlathulule ukucabanga kwabo, “isib. $48 + 6$, ngihlanganisa ku-2 ema-48 ukuthola ama-50, bese ngihlanganisa noku-4, ngokunjalo ipendulo ima-54.”

Tjela abafundi bangabali ngaku-1.

Abafundi ababhalelwa kukwenza umsebenzi lo ngehloko bangagwala amanambalayini nanyana amakghwakghwa ukwenzela ukubasiza.

Ividiyo esekelako

Ukweyamela etjhumini koku-1



https://youtu.be/iJNrdV3P4_s

Ividiyo esekelako

Ukweyamela etjhumini kwesi- 2



<https://youtu.be/upvlvkC3Yko>

UKWEYAMELA ETJHUMINI: ISIFUNDO ESITHOMAKO SESI-2

Umzuzu mu-1 wokukhaliphisa umkhumbulo

- a. Pop-Fizz: Yenza i-10 begodu/nofana Yenza ama-20 (nofana nanyana ngisiphi isibuyabuyelelo setjhumini)
- b. Ukweqela isibuyabuyelelo se-10 **esilandelako** (isib. 23 → 30; 56 → 60)

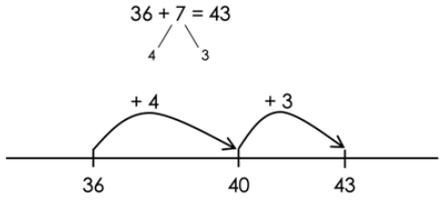
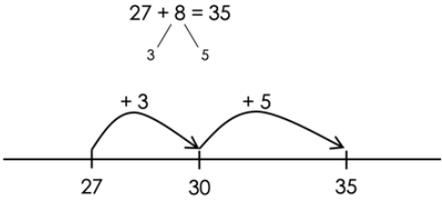
Lokhu akusikho ukutjhideza etjhumini eliseduze kodwana kukukweqela isibuyabuyelelo setjhumini **esilandelako** enambalayinini.

“Ngisiphi isibuyabuyelelo setjhumini **esilandela ngemuva ...?**”

Utijhere: 47 → Abafundi: 50
 Utijhere: 32 → Abafundi: 40 njalo njalo ...

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa amaqhinga wokweyamela etjhumini ukubalisisa ukuhlanganisa.

<p>Bawa abafundi bonyana bakhumbule okwenziwe izolo. Siwararulule bunjani ama-36 + 7?</p> <p>Thoma ngokugwala umuda begodu utshwaya iphuzu '36'.</p> <p>Utijhere: Siyahlanganisa ngokunjalo sifanele seqe ukuya phambili. Ngisiphi isibuyabuyelelo setjhumini esilandela ngemuva kwama-36?</p> <p>Abafundi: 40</p> <p>Umfundi ufanele eze azokutshwaya umuda.</p> <p>Vumela abafundi bahlathulule indlela abayisebenzisileko nokuthi isebenza njani, bebayitjengise ebhodini.</p>	<p>Umfanekiso wokugcina, opheleleko utjengiswe ngenzasi:</p> 
<p>Bese, utjengisa ebhodini bonyana weyamela bunjani etjhumini ukurarulula: 27 + 8</p> <p>Thoma ngokugwala umuda bese utshwaya iphuzu elilebulwe '27' begodu urarulule umraro ngokusebenzisa iqhinga lokweyamela etjhumini.</p>	<p>Umfanekiso wokugcina, opheleleko utjengiswe ngenzasi:</p> 

Umsebenzi womfundi ngamunye

Abafundi bafanele kwanjesi balinge ukwenza isibonelo esilandelako *ngehloko*: 42 + 9

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “42 +9, Ngihlanganisa ubu-8 ema-42 ukuthola ama-50, bese ngihlanganisa uku-1 ukuthola ama-51”.

Tjela abafundi bangabali ngaku-1.

Abafundi ababhalelwa kukwenza lokhu ngehloko bangagwala inambalayini nanyana imatlhantlha ukwenzela ukubasiza.

Ividiyo esekelako

Ukweyamela etjhumini kwesi-3



https://youtu.be/wDEEqU9B_5Q

UKWEYAMELA ETJHUMINI: ISIFUNDO ESITHOMAKO SESI-3

Umzuzu mu-1 wokukhaliphisa umkhumbulo

a. Ukweqela isibuyabuyelelo setjhumini **esilandelako** (isib. 23 → 30; 56 → 60)

b. Ukuhlanganisa isibuyabuyelelo setjhumini

“Ayini ...?”

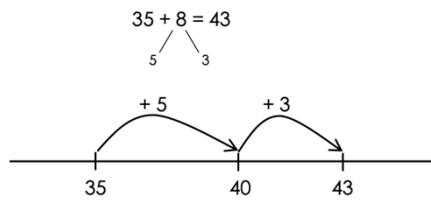
Utijhere: $30 + 6 \rightarrow$ Abafundi: 36

Utijhere: $50 + 2 \rightarrow$ Abafundi: 52

Utijhere: $70 + 5 \rightarrow$ Abafundi: 75 njalo njalo ...

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa amaqhinga wokweyamela etjhumini ukubalisisa ukuhlanganisa.

<p>Tjengisa ebhodini bonyana weyamela bunjani etjhumini nawurarulula lokhu: $35 + 8$</p> <p>Thoma ngokuthala umuda bese utshwaya iphuzu elilebulwe ama- '35'.</p> <p>Rarulula umraro ngokusebenzisa amaqhinga wokweyamela etjhumini.</p>	<p>Umfanekiso wokugcina, opheleleko utjengiswe ngenzasi:</p> 
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Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjisi balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$44 + 8$ $39 + 7$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. $44 + 8$, Ngihlanganisa isi-6 ema-44 ukuthola ama-50, bese ngihlanganisa ku-2 ukuthola ama-52.”

Tjela abafundi bangabali ngaku-1.

Nikela abafundi abaqede masinya eminye imisebenzi yokuzijayeza:

$43 + 8$ $67 + 6$ $84 + 7$

UKWEYAMELA ETJHUMINI: ISIFUNDO ESITHOMAKO SESI-4

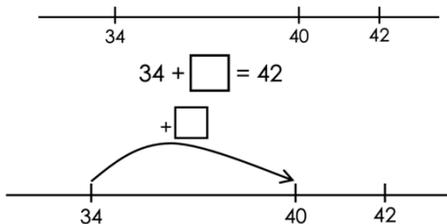
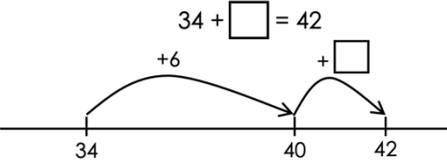
Umzuzu mu-1 wokukhaliphisa umkhumbulo

Ukuhlanganisa ufike e-10: Imitjho yeenomboro ebuya kubha-dayagramu.

<p>Utijhere: Le yibha-dayagramu etjengisa bonyana i-7 noku-3 kwenza i-10.</p> <p>Utijhere: i-7 hlanganisa nangaki kwenza i-10?</p> <p>Abafundi: 3</p> <p>Utijhere: Bese, ku-3 hlanganisa nangaki kwenza i-10?</p> <p>Utijhere ukhomba isibalo ngasinye esisebhodini bese itlasi linikela inomboro engekho.</p> <p>Ragela phambili nokubuza itlasi, ngomlomo, usebenzise iimbonelo ezinengi zokuhlanganisa ufike etjhumini:</p> <p>1 + nangaki kwenza i-10? Bese 9 + nangaki kwenza i-10?</p> <p>2 + nangaki kwenza i-10? Bese 8 + nangaki kwenza i-10?</p> <p>6 + nangaki kwenza i-10? Bese 4 + nangaki kwenza i-10?</p>	<p>Tlola okulandelako ebhodini:</p> <table border="1" style="margin: 0 auto; border-collapse: collapse; text-align: center;"> <tr> <td style="width: 50px; height: 30px;">7</td> <td style="width: 50px; height: 30px;">3</td> </tr> <tr> <td colspan="2" style="border: none;"> </td> </tr> <tr> <td colspan="2" style="border: none; text-align: center;">10</td> </tr> </table> <p>Lungisa ibhodi ngeembonelo lezi:</p> <table style="margin: 0 auto; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px 10px;">2</td> <td style="border: 1px solid black; padding: 2px 10px;">8</td> <td style="width: 20px;"></td> <td style="border: 1px solid black; padding: 2px 10px;">6</td> <td style="border: 1px solid black; padding: 2px 10px;">4</td> </tr> <tr> <td colspan="2" style="border: none; text-align: center;">10</td> <td></td> <td colspan="2" style="border: none; text-align: center;">10</td> </tr> </table> <p>2 + <input style="width: 20px;" type="text"/> = 10</p> <p>8 + <input style="width: 20px;" type="text"/> = 10</p> <p><input style="width: 20px;" type="text"/> + 4 = 10</p> <p>4 + <input style="width: 20px;" type="text"/> = 10</p>	7	3			10		2	8		6	4	10			10	
7	3																
10																	
2	8		6	4													
10			10														

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa iqhinga lokweyamela etjhumini ukuthola inomboro engekho ekubalisiseni ukuhlanganisa.

<p>Sebenzisa ukweyamela etjhumini ukurarulula:</p> <p>34 + <input style="width: 20px;" type="text"/> = 42.</p> <p>Gwala inambalayini etjengisa ama-'34' nama-'42'.</p> <p>Utijhere: Ngisiphi isibuyabuyelelo setjhumini esilandelako esingemuva kwama-34?</p> <p>Abafundi: 40</p> <p>Tshwayani ama-'40' enambalayinini.</p> <p>Utijhere: Ama-34 hlanganisa nangaki kwenza ama-40?</p> <p>Abafundi: 6</p> <p>Tlolani isi-'6' ebhlogweni elingehla komeqo njengobana kutjengisiwe.</p>	<p style="text-align: center;">$34 + \square = 42$</p>  <p style="text-align: center;">$34 + \square = 42$</p> 
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Nangabe abafundi babhalelwa sibonelo lesi, babuze bonyana “4 + nangaki kwenze i-10?”

Abafundi bafanele bakwazi ukunikela ipendulo isi-‘6’, ngokunjalo batjengise bonyana lokhu kuyafana kizo zoke iimbuyabuyelelo zetjhumini:

Ngokunjalo: $4 + 6 = 10$; $14 + 6 = 20$; $24 + 6 = 30$; $34 + 6 = 40$...

Utijtjhere: Yini ehlanganiswe nama-40 ukuthola ama-42?

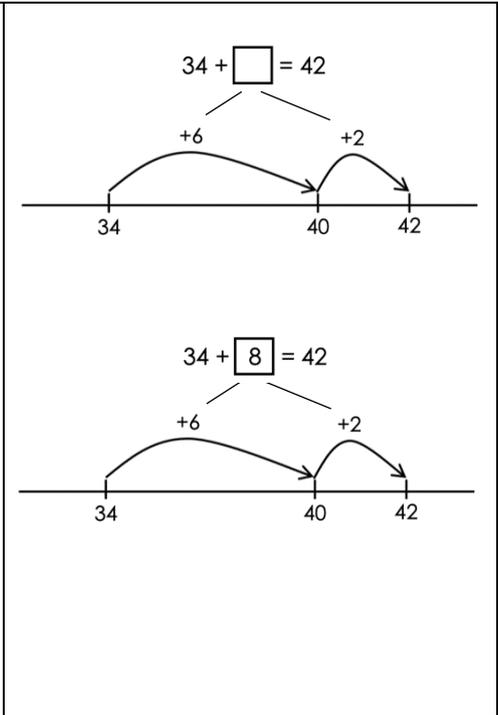
Umfundi: 2

Utijtjhere: Siyini isi-6 nasihlanganiswa noku-2? (khomba isi-6 noku-2 edayagramini)

Umfundi: 8

Utijtjhere: Ngokunjalo, yini ehlanganiswa nama-34 ukwenza ama-42?

Umfundi: 8



Imisebenzi yomfundi ngamunye

Abafundi bafanele ukulinga ukwenza iimbonelo ezilandelako *ngehloko*:

$28 + \square = 35$ $67 + \square = 72$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “esibonelweni sokuthoma, isibuyabuyelelo setjhumini esilandelako sima-30, ngokunjalo ngihlanganisa ku-2 ukuthola ama-30 bese ngifanele ngihlanganise noku-5 ukuthola ama-35. Ku-2 hlanganisa noku-5 kwenza i-7.”

Tjela abafundi bangabali ngaku-1.

Umsebenzi wekhaya: Iphepha lokusebenzela loku-1

Ekugcineni kwesifundo sanamhlanjesi nikela abafundi IPhepha lokusebenzela woku-1.

Akutlhogeki bonyana unikele abafundi isikhathi sokwenza IPhepha lokusebenzela lo. Umnqopho kukunikela abafundi umsebenzi otlolwako wokuzijayeza abawenza ngehloko.

Ividiyo esekelako

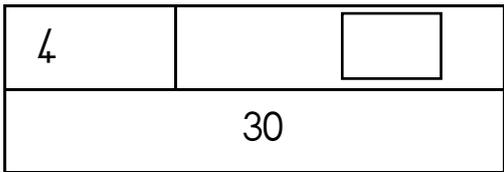
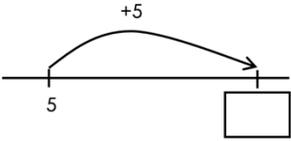
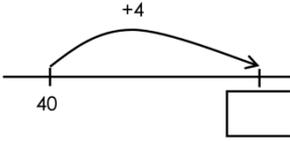
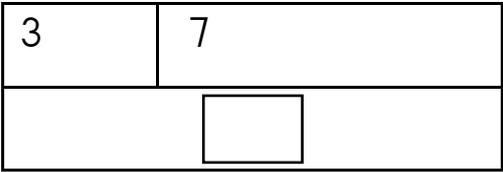
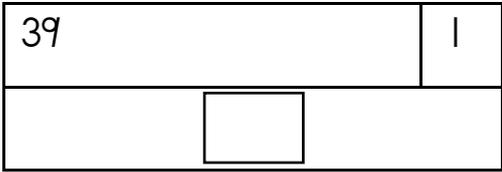
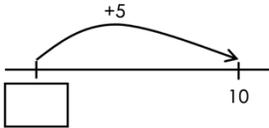
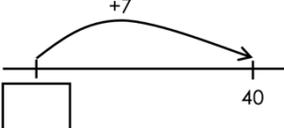
Ukweyamela etjhumini kwesi-4



<https://youtu.be/INITWPDMFKY>

Igama:

Ukweyamela etjhumini: Iphepha lokusebenzela loku-

1. $6 + 4 = \square$	13. $50 + 6 = \square$
2. $1 + 9 = \square$	14. $50 + 4 = \square$
3. i-7 lincani kune-10 ngaku- \square	15. ubu-8 buncani kunama-30 ngama- \square
4. $10 = 3 + \square$	16. $20 = 19 + \square$
5. 	17. 
6. 	18. 
7. $10 - 5 = \square$	19. $60 - 4 = \square$
8. $10 - 8 = \square$	20. $60 - 7 = \square$
9. 	21. 
10. $\square + 4 = 10$	22. $\square + 3 = 23$
11. $8 + \square = 10$	23. $30 + \square = 36$
12. 	24. 

Amanowuthi katitjhere

Lapha ungatloa amanowuthi ngesifundo begodu nokuthi ngibaphi abafundi abasadinga isizo ngeqhinga lokweyamela etjhumini. Ungenza amanowuthi wananyana ngiziphi izinto ofuna ukuzilungisa esifundweni esithomako esilandelako.

UKWEYAMELA ETJHUMINI: ISIFUNDO ESITHOMAKO SESI-5

Umzuzu mu-1 wokukhaliphisa umkhumbulo

a. Ukweqela esibuyabuyelelweni setjhumini esingaphambili

Lokhu akusikho ukutjhideza etjhumini eliseduze kodwana kukubala ngokweqela esibuyabuyelelweni setjhumini **esingaphambili** enambalayinini.

“Nginikelani isibuyabuyelelo setjhumini esiza **ngaphambili**....”

Utijhere: 26 → Abafundi: 20

Utijhere: 53 → Abafundi: 50 njalo njalo ...

b. Ukukhupha esibuyabuyelelweni setjhumini

“Ayini ama ...?”

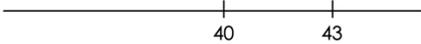
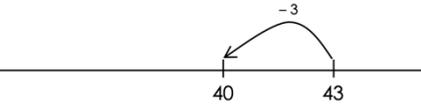
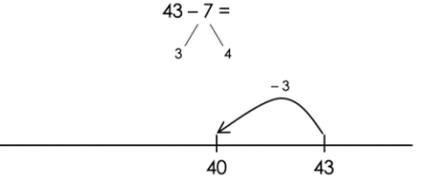
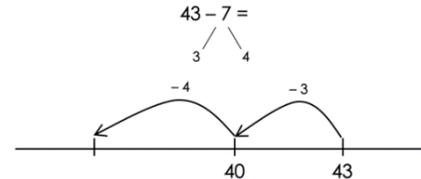
Utijhere: 30 – 6 → Abafundi: 24

Utijhere: 50 – 2 → Abafundi: 48

Utijhere: 70 – 5 → Abafundi: 65 njalo njalo ...

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa iqhinga lokweyamela etjhumini ukurarulula umraro wokubalisisa ukukhupha.

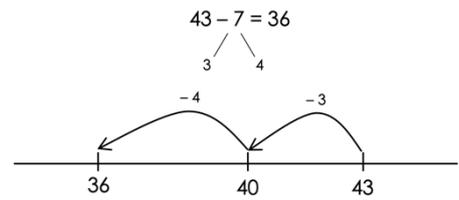
<p>Umraro: $43 - 7$</p> <p>Tlola ama-‘$43 - 7 =$’ ebhodini.</p> <p>Thala umuda bese utshwaya iphuzu elilebulwe ama-‘43’.</p> <p>Utijhere: Siyakhupha ngokunjalo sifanele seqele emuva. Siyini isibuyabuyelelo setjhumini esingaphambi kwama-43?</p> <p>Abafundi: 40</p> <p>Umfundi ufanele eze azokutshwaya umuda.</p>	<p style="text-align: center;">$43 - 7 =$</p> 
<p>Utijhere: Sifanele seqe siye emuva kali-7. Asenze umeqo owodwa wokuya isibuyabuyelelo setjhumini kunokubala siye emuva ngaku-1. Ama-43 khupha kungaki kusale ama-40?</p> <p>Abafundi: 3</p>	<p style="text-align: center;">$43 - 7 =$</p> 
<p>Utijhere: Sikhuphe ku-3. Sifanele sikhuphe ikhomba. I-7 lihlukaniswa ngoku-3 nobani?</p> <p>Abafundi: 4</p> <p>Hlukanisani i-7 ema-$43 - 7$ ngoku-3 nangoku-4.</p> <p>Utijhere: Kunengi ngakungaki esidinga ukukukhupha?</p> <p>Abafundi: 4</p>	<p style="text-align: center;">$43 - 7 =$</p>  <p style="text-align: center;">$43 - 7 =$</p> 

Utijhere: Ayini ama-40 nawukhupha ku-4?

Abafundi: 36

Utijhere: Ngokunjalo, $43 - 7 = 43 - 3 - 4 = 36$.

Rekhoda ipendulo enambalayinini.



Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjisi balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$$54 - 6 \quad 63 - 5$$

Abafundi bafanele bahlathulule ukucabanga kwabo, “isib. ama-54 – 6, Ngikhupha ku-4 ema-54 ukuthola ama-50, bese ngikhupha ku-2, ngokunjalo ipendulo ima-48.”

Tjela abafundi bangabali ngaku-1.

Abafundi ababhalelwa kukwenza umsebenzi lo ngehloko bangagwala inambalayini nanyana imathantlha ukwenzela ukubasiza.

Ividiyo esekelako

Ukweyamela etjhumini kwesi-5



<https://youtu.be/-bQNTOPly7I>

Ividiyo esekelako

Ukweyamela etjhumini kwesi-6



<https://youtu.be/JvNKtAdrziM>

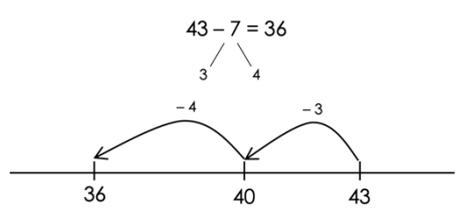
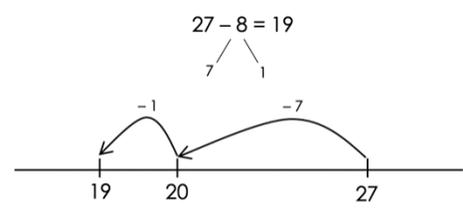
UKWEYAMELA ETJHUMINI: ISIFUNDO ESITHOMAKO SESI-6

Umzuzu mu-1 wokukhaliphisa umkhumbulo

- a. Ukweqela esibuyabuyelweni setjhumini **esiphambili** (isib. 23 → 20; 56 → 50)
- b. Ukukhupha esibuyabuyelelweni setjhumini (isib. 30 – 3 → 27; 40 – 6 → 34)

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa iqhinga lokweyamela etjhumini ukurarulula umraro wokubalisisa ukukhupha.

<p>Bawa abafundi balinge ukukhumbula okwenziwe izolo: Siwurarulule bunjani umraro lo 43– 7?</p> <p>Thoma ngokuthala umuda bese utshwaya iphuzu elilebulwe ama-‘43’.</p> <p>Vumela abafundi bahlathulule indlela abayisebenzisileko nokuthi isebenza bunjani, bebayitjengise ebhodini.</p>	<p>Umfanekiso wokugcina, opheleleko utjengiswe ngenzasi:</p> 
<p>Bese, utjengisa ebhodini bonyana weyamela bunjani etjhumini ukurarulula umraro lo 27 – 8</p> <p>Thoma ngokuthala umuda bese utshwaya iphuzu elilebulwe ama-‘27’ begodu urarulule umraro ngokusebenzisa iqhinga lokweyamela etjhumini.</p>	<p>Umfanekiso wokugcina, opheleleko utjengiswe ngenzasi:</p> 

Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjesi balinge ukwenza iimbonelo ezilandelako *ngehloko*: 35 – 7

Abafundi bafanele bahlathulule ukucabanga kwabo, “isib. ama-35 – 7, ngithe ama-35 – 5 ngathola ama-30 bese ngakhupha ku-2, ngathola ama-28.”

Tjela abafundi bangabali ngaku-1.

Abafundi ababhalelwa kukwenza umsebenzi wehloko lo bangagwala inambalayini nanyana imatlhantlha ukwenzela ukubasiza.

Nikela abafundi abaqede masinya eminye imisebenzi yokuzijayeza:

42 – 8

62 – 6

84 – 7

Ividiyo esekelako

Ukweyamela etjhumini kwe-7



https://youtu.be/npm_pVwiXD4

UKWEYAMELA ETJHUMINI: ISIFUNDO ESITHOMAKO SE-7

Umzuzu mu-1 wokukhaliphisa umkhumbulo

- a. Ukweqela esibuyabuyelelweni setjhumini **esingaphambili** (isib. $23 \rightarrow 20$; $56 \rightarrow 50$)
- b. Ukukhupha esibuyabuyelelweni setjhumini (isib. $30 - 3 \rightarrow 27$; $40 - 6 \rightarrow 34$)

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa iqhinga lokweyamela etjhumini ukurarulula umraro wokubalisisa ukukhupha.

<p>Tjengisa ebhodini bonyana weyamela bunjani etjhumini ukurarulula $35 - 8$</p> <p>Thoma ngokuthala umuda bese utshwaya iphuzu elilebulwe ama-“35”.</p> <p>Rarulula umraro ngokusebenzisa iqhinga lokweyamela etjhumini.</p>	<p>Umfanekiso wokugcina, opheleleko utjengiswe ngenzasi:</p> <div style="text-align: center;"> $35 - 8 = 27$ </div>
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Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjesi balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$25 - 8$ $36 - 7$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “ama- $25 - 8$, ngithe ama- $25 - 5$ ngathola ama- 20 begodu ngakhupha ku- 3 ukuze ngithole i- 17 .”

Tjela abafundi bangabali ngaku-1.

Abafundi ababhalelwa kukwenza umsebenzi wehloko lo bangagwala inambalayini nanyana imathantlha ukwenzela ukubasiza.

Nikela abafundi abaqede masinya eminye imisebenzi yokuzijayeza:

$73 - 6$ $42 - 8$ $81 - 4$

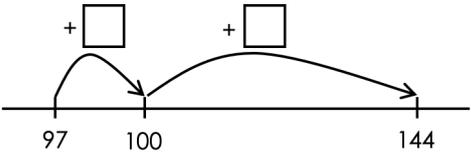
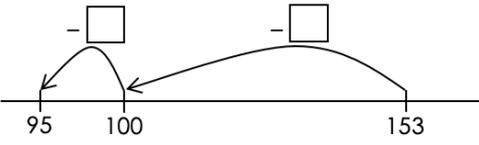
Umsebenzi wekhaya: IPhepha lokusebenzela lesi-2

Ekugcineni kwesifundo sanamhlanjesi nikela abafundi iphepha lokusebenzela lesi-2.

Akutlhogeki bonyana unikele abafundi isikhathi sokwenza umsebenzi lo. Umnqopho kukunikela abafundi umsebenzi otlolwako wokuzijayeza abawenze ngehloko.

Igama:

Ukweyamela etjhumini: Iphepha lokusebenzela lesi-2

1. $45 + 8 = \square$	
2. $54 - 6 = \square$	
3. $26 + \square = 34$	
4. $27 + \square = 27 + 3 + 5$	
5. $32 + 9 = 32 + 8 + \square$	
6. $67 + 6 = 67 + 3 + \square$	
7. $44 + \square = 44 + 6 + 23$	
8. $32 - \square = 32 - 2 - 5$	
9. 	
$97 + \square + \square = 144$	
10. 	
$153 - \square - \square = 95$	

Amanowuthi katitjhere

Lapha ungatlole amanowuthi ngesifundo begodu nokuthi ngibaphi abafundi abasadinga isizo ngeqhinga lokweyamela etjhumini. Ungenza amanowuthi wananyana ngiziphi izinto ofuna ukuzilungisa esifundweni esithomako esilandelako.

UKWEYAMELA ETJHUMINI: ISIFUNDO ESITHOMAKO SOBU-8

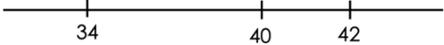
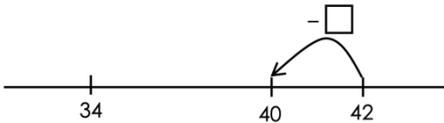
Umzuzu mu-1 wokukhaliphisa umkhumbulo

Ukuhlanganisa ufike e-10: Imitjho yeenomboro ebuya kubha-dayagramu.

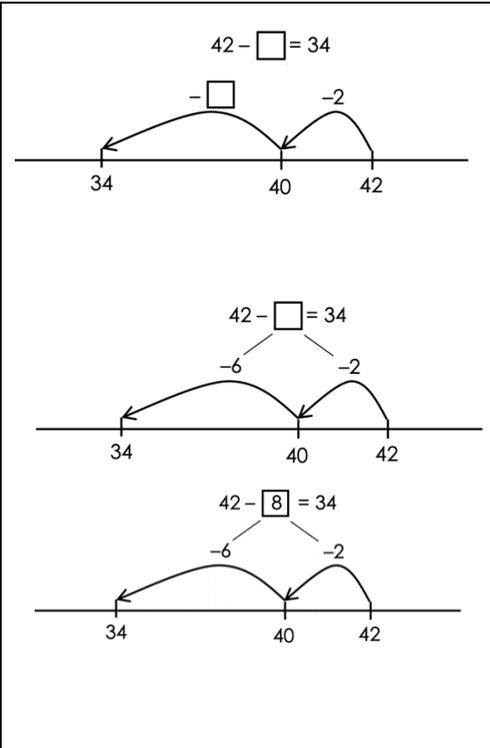
<p>Utijhere: Le yibha-dayagramu begodu itjengisa bonyana i-7 noku-3 kwenza i-10.</p> <p style="padding-left: 20px;">Siyabona godu bonyana $i-10 - 7 = 3$ nasiqala idayagramu.</p> <p>Utijhere: Ngokunjalo e-10 sikhupha kungaki kwenze ku-3?</p> <p>Abafundi: 7</p> <p>Utijhere: Bese, e-10 sikhupha kungaki kwenze i-7?</p> <p>Abafundi: 3</p> <p>Utijhere ukhomba ukubalisisa ngakunye okusebhodini bese itlasi linikela inomboro engekho.</p> <p>Ragela phambili nokubuza itlasi, ngomlomo, usebenzise iimbonelo ezinengi zokuhlanganisa ufike etjhumini:</p> <p style="padding-left: 20px;">i-10 khupha kungaki kwenza ku-1? i-10 khupha kungaki kwenza i-9?</p> <p style="padding-left: 20px;">i-10 khupha kungaki kwenza ku-2? i-10 khupha kungaki kwenza ubu-8?</p> <p style="padding-left: 20px;">i-10 khupha kungaki kwenza ku-4? i-10 khupha kungaki kwenza isi-6?</p>	<p>Tlola okulandelako ebhodini:</p> <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 50px;">7</td> <td style="text-align: center; width: 50px;">3</td> </tr> <tr> <td colspan="2" style="text-align: center; border-top: 1px solid black;">10</td> </tr> </table> <p>Hlela ibhodi ngeembonelo ezilandelako:</p> <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <tr> <td style="text-align: center; width: 30px;">2</td> <td style="text-align: center; width: 30px;">8</td> <td style="text-align: center; width: 30px;">6</td> <td style="text-align: center; width: 30px;">4</td> </tr> <tr> <td colspan="2" style="text-align: center; border-top: 1px solid black;">10</td> <td colspan="2" style="text-align: center; border-top: 1px solid black;">10</td> </tr> </table> <p>$10 - \square = 6$</p> <p>$10 - \square = 4$</p> <p>$10 - \square = 2$</p> <p>$10 - \square = 8$</p>	7	3	10		2	8	6	4	10		10	
7	3												
10													
2	8	6	4										
10		10											

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa iqhinga lokweyamela etjhumini ukuthola inomboro engekho ekubalisiseni ukukhupha.

<p>Sebenzisa iqhinga lokweyamela etjhumini ukurarulula umraro $42 - \square = 34$</p> <p>Gwala inambalayini etjengisa ama-'42' nama-'34'</p> <p>Utijhere: Ngisiphi isibuyabuyelelo setjhumini esingaphambi kwama-42?</p> <p>Abafundi: 40</p> <p>Tshwaya ama-'40' enambalayinini,</p> <p>Utijhere: ama-42 khupha kungaki kwenza ama-40?</p> <p>Abafundi: 2</p> <p>Tlola uku-'2' ebhlogweni elingaphezulu komeqo.</p>	<p style="text-align: center;">$42 - \square = 34$</p>  <p style="text-align: center;">$42 - \square = 34$</p> 
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Utijhere: Sikhupha kungaki ema-40 ukuthola ama-34?
 Abafundi: 6
 Nangabe abafundi babhalelwa sibonelo lesi, babuze bonyana “i-10 khupha kungaki kwenze ku-4?”
 Abafundi bafanele bakwazi ukunikela ipendulo; isi-‘6”, ngokunjalo batjengise bonyana lokhu kuyafana kizo zoke iimbuyabuyelelo zetjhumini;
 Ngokunjalo: $10 - 6 = 4$; $20 - 6 + 14 = 0$; $30 - 6 = 24$; $40 - 6 = 34$ njll.
 Utijhere: Siyini isi-6 nasihlanganiswa noku-2?
 (khomba isi-6 noku-2 edayagramini)
 Abafundi: 8
 Utijhere: Ngokunjalo, ama-42 khupha kungaki kwenze ama-34?
 Abafundi: 8



Imisebenzi yomfundi ngamunye

Abafundi bafanele balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$35 - \square = 28$ $72 - \square = 67$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “ $35 - \square = 28$ ”, “isibuyabuyelelo setjhumini esingaphambili kwama-35 ma-30, ngokunjalo ngikhupha ku-5 ukuthola ama-30 bese ngikhupha ku-2 ukuthola ama-28. Ku-5 hlanganisa naku-2 kwenza 1-7”.

Tjela abafundi bangabali ngaku-1.

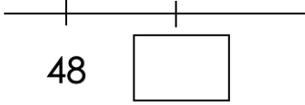
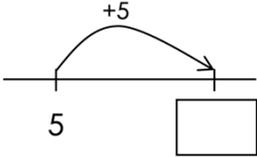
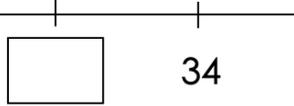
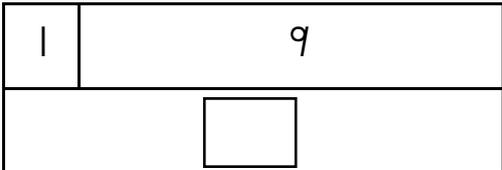
Abafundi ababhalelwa kukwenza umsebenzi wehloko lo bangagwala inambalayini nanyana imatlhantlha ukwenzela ukubasiza.

Ividiyo esekelako

Ukweyamela eTjhumini kobu-8



<https://youtu.be/9YSloijDOso>

Igama:	
Ukweyamela et jhumini: Ngemuva kokuhlolwa	
INGCENYE YOKU-I	Imizuzu emi-2 yenzelwe ikhasi leli
1. $6 + 4 = \square$	1. $50 + 7 = \square$
2. $2 + 8 = \square$	2. $3 + 60 = \square$
3. $10 = 7 + \square$	3. $40 - 7 = \square$
4. ubu-8 buncani kune-10 ngaku- \square	4. $40 + 8 = \square$
5. 	5. Ngisiphi isibuyabuyelelo set jhumi esilandeleko? 
6. 	6. $100 + 27 = \square$
7. $10 - 5 = \square$	7. Ngisiphi isibuyabuyelelo set jhumi esingaphambili kwama-34? 
8. $10 - 3 = \square$	8. $\square + 8 = 50$
9. 	9. $30 - \square = 27$
10. $\square + 10 = 10$	20. $87 = 80 + \square$
Inani seliloke:20	

Ukweyamela eTjhumini: Ngemuva kokuhlolwa

INGCENYE YESI-2 **Imizuzu emi-3 yenzelwe ikhasi leli**

1. $66 + 8 = \square$

2. $83 - 5 = \square$

3. $93 - 7 = \square$

4. $67 + \square = 73$

5. $\square + 7 = 82$

6. $67 + 5 = 67 + 3 + \square$

7. $94 - \square = 94 - 4 - 2$

8. $98 + 56 = 98 + 2 + \square$

9.

$103 - \square = 95$

10.

$98 + \square = 136$

Inani seliloke: 10

AMAQHINGA WOKUBALA NGOKWEQA

Isingeniso

Umnqopho weemfundo ezithomako ezine zokuthoma ukuhlanganisa nakusetjenziswa amaqhinga wokubala ngokweqa. Eemfundweni ezithomako ezine ezilandelako, umnqopho ukukhupha nakusetjenziswa amaqhinga wokubala ngokweqa. Eminye yemisebenzi irholwa ngutitjhere ebhodini begodu eminye ngeyokwenziwa bafundi ngokuzijamela.

Amakghono wokukhumbula masinya

Kunamakghono asithandathu wokukhumbula masinya abafundi abafanele bawafunde amaqhinga wokubala ngokweqa:

- Ukubala uye phambili nofana emuva ngama-10 ukusuka kunanyana ngiyiphi inomboro (isib. 12, 22, 32, nofana 57, 47, 37, ...)
- Ukuhlanganisa nofana ukukhupha i-10 ukusuka kunanyana ngiyiphi inomboro (isib. $43 + 10 = 53$ nofana $89 - 10 = 79$)
- Ukuhlanganisa isibuyabuyelelo setjhumi kunanyana ngiyiphi inomboro (isib. $61 + 20 = 81$)
 - Ukukhupha isibuyabuyelelo setjhumi ukusuka kunanyana ngiyiphi inomboro (isib. $46 - 30 = 16$)
- Ukweqela esibuyabuyelelweni setjhumi esilandelako esingemuva kwenomboro (isib. $32 \rightarrow 40$)
- Ukweqela esibuyabuyelelweni setjhumi esingaphambili kwenomboro (isib. $56 \rightarrow 50$)

Igama:

Amaqhinga wokubala ngokweqa: Ngaphambi kokuhlolwa

INGCENYE YOKU-I

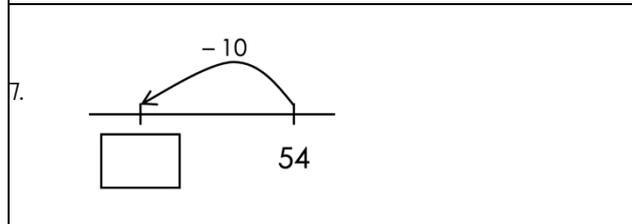
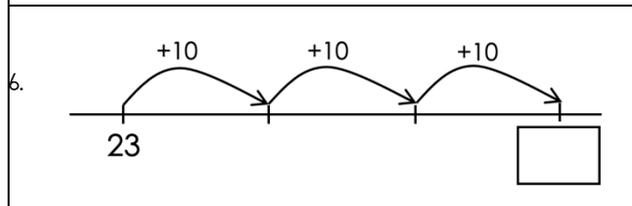
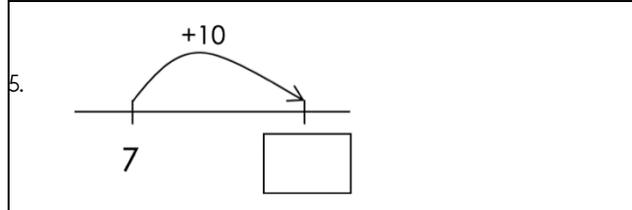
Imizuzu emi-2 yenzelwe ikhasi leli

1. Zalisa inomboro engekho
14, 24, 34, 44,

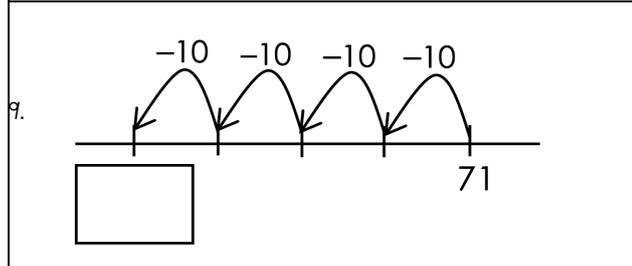
2. Zalisa inomboro engekho
79, 69, 59, 49,

3. $6 + 30 =$

4. $57 - 10 =$

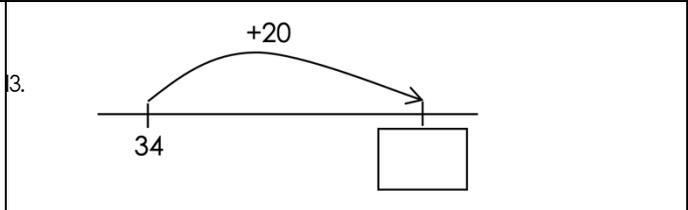
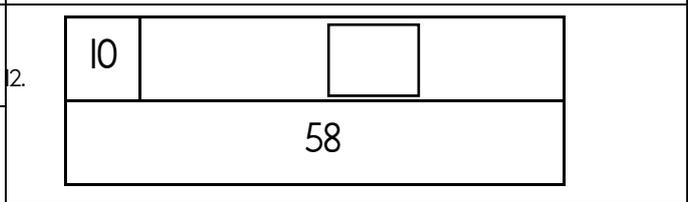
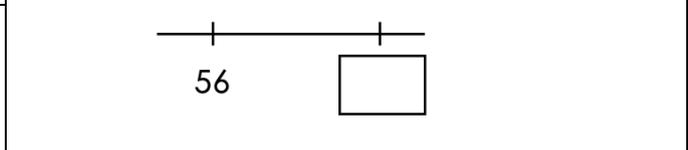


8. $36 +$ $= 40$



10. $31 - 20 =$

ii. Ngisiphi isibuyabuyelelo se-10 esilandelako?



4. $16 + 30 =$

5. Ngisiphi isibuyabuyelelo se-10 esingaphambili kwama-48

6. $79 - 40 =$

7. $38 -$ $= 18$

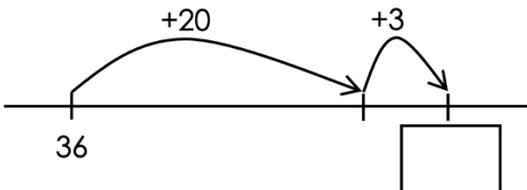
8. $- 20 = 69$

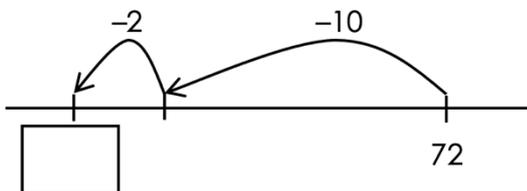
9. $37 +$ $= 77$

20. $+ 20 = 66$

Inani seliloke: 20

Amaqhinga wokubala ngokweqa: Ngaphambi kokuhlolwa
INGCENYE YESI-2 Imizuzu emi-3 yenzelwe ikhasi leli

1. 

2. 

3. 
 $45 + \square + 7 = 82$

4. 
 $53 - \square - 4 = 29$

5. $57 + 26 = \square$

6. $83 - 24 = \square$

7. $19 + \square = 41$

8. $62 - \square = 47$

9. $61 - 32 = 61 - \square - 2$

10. $74 - \square = 74 - 20 - 5$

Inani seliloke: 10

Ukubuyelela kabili nokuhafula phakathi

AMAQHINGA WOKUBALA NGOKWEQA: ISIFUNDO ESITHOMAKO SOKU-1

Umzuzu mu-1 wokukhaliphisa umkhumbulo1

a. Zombelezela ikamura kanengi nge-10 ngaphezulu (itlasi loke lingadlhegana ngokuphendula)

Utijhere utjho inomboro bese abafundi baphendula ngokudlhegana ngetlasini bangeza ngokunengi nge-10 ngaphezulu kwenomboro yokucina.

Utijhere: 16

Umfundi woku-1: 26 → Umfundi wesi-2: 36 → Umfundi wesi-3: 46 → Umfundi wesi-4: 56 njalo njalo.

b. Zombelezela itlasi ngokuphungula kancani nge-10 (itlasi loke lingadlhegana ngokuphendula)

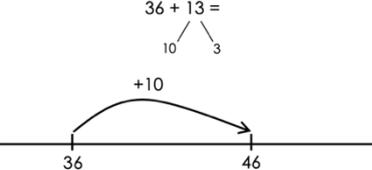
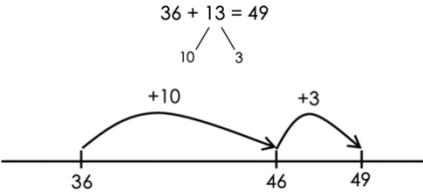
Utijhere utjho inomboro bese abafundi baphendula ngokudlhegana baphungula nge-10 enomborweni yokucina.

Utijhere: 128

Umfundi woku- 1: 118 → Umfundi wesi-2: 108 → Umfundi wesi-3: 98 → Umfundi wesi-4: 88 njalo njalo.

Ukulandelana komsebenzi

Esifundweni lesi sethula amakghono wokubala ngokweqa ukurarulula imiraro yokuhlanganisa.

<p>Umraro: $36 + 13$</p> <p>Tlola '36 + 13 =' ebhodini.</p> <p>Tshwaya ama-36 eduze kwalapho kuthoma khona umuda (ngombana ukuhlanganisa kutjho bonyana sizokweqa ukuya phambili).</p>	<p>$36 + 13 =$</p> 
<p>Utijhere: Sifanele seqe siye phambili ka-13. Asiphuleni i-13 nge-10 nangoku-3. Ayini ama-36 + 10?</p> <p>Abafundi: 46</p> <p>Gwala umeqo waka +10, ufike ema-46.</p>	<p>$36 + 13 =$</p> 
<p>Utijhere: Sisafanele seqe siye phambili ka-3. Ayini ama-46 nakahlanganiswa noku-3</p> <p>Abafundi: 49</p> <p>Tlola enambalayinini njengombana kutjengisiwe.</p> <p>Utijhere: Silandela amagadango alandelako:</p> <ul style="list-style-type: none"> • Sitshwaya inomboro yokuthoma • Siphula inomboro yesibili esiyihlanganisako • Seqela ematjhumini begodu nemayunithini • Sipe ipendulo <p>Utijhere: Ngokunjalo ama-36 + 13 afana</p>	<p>$36 + 13 = 49$</p>  <p>$36 + 10 + 3 = 49$</p>

Ukubuyelela kabili nokuhafula phakathi

nama-36 + 10 + 3 = 49 ngombana sihlanganise i-13 ngokuthoma ngokuhlanganisa i-10, kwalandela uku-3. Tlola imitjho yeenomboro njengobana kutjengisiwe.	
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Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjesi balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$$64 + 12 \quad 24 + 15$$

Abafundi bafanele bahlathulule ukucabanga kwabo, “isib. ama-64 + 12, ngihlanganisa i-10 ema-64 ukuthola ama-74, bese ngihlanganisa noku-2, ngokunjalo ipendulo iba ma-76.”

Tjela abafundi bangabali ngaboku-1.

Abafundi ababhalelwa kukwenza umsebenzi lo ngehloko bangagwala inambalayini nanyana imatlhantlha ukwenzela ukubasiza.

Ividiyo esekelako

Amaqinga wokubala ngokweqa woku-1



<https://youtu.be/FPTVolFFd3k>

AMAQHINGA WOKUBALA NGOKWEQA: ISIFUNDO ESITHOMAKO SESI-2

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Pop Fizz: Kunengi nge-10 nofana kuncani nge-10

a. Utitjhere uthi 'pop', abafundi bathi 'fizz', Utitjhere utjho inomboro, abafundi baphendula ngenomboro enengi nge-10 **ngaphezulu** (nofana ngesibuyabuyelelo se-10 ngaphezulu)

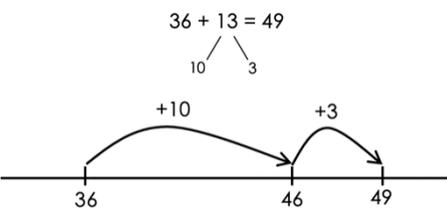
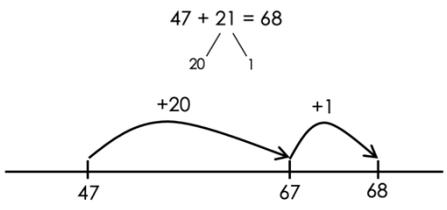
Utitjhere: pop → Abafundi: fizz
 Utitjhere: 3 → Abafundi: 13
 Utitjhere: pop → Abafundi: fizz
 Utitjhere: 53 → Abafundi 63 njalo njalo ...

b. Utitjhere uthi 'pop', abafundi bathi 'fizz', Utitjhere utjho inomboro, abafundi baphendula ngenomboro **encani nge-10** (nofana ngesibuyabuyelelo **esincani nge-10**)

Utitjhere: pop → Abafundi: fizz
 Utitjhere: 49 → Abafundi: 39
 Utitjhere: pop → Abafundi: fizz
 Utitjhere: 78 → Abafundi: 68 njalo njalo ...

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa amaqhinga wokubala ngokweqa ukurarulula imiraro yokuhlenganisa.

<p>Bawa abafundi balinge ukukhumbula okwenziwe izolo: Sirarulule bunjani ama-36 + 13?</p> <p>Thoma ngokuthala umuda bese utshwaya iphuzu '36'.</p> <p>Vumela abafundi bahlathululelane indlela abayisebenzisileko kilabo abahlezi nabo, bese ubawa ngababili batjengise abakwenzileko ebhodini.</p> <p>Khumbuza abafundi amagadango abawafunde ngaphambilini: Tshwaya, phula, yeqa begodu phendula.</p>	<p>Umfanekiso wokugcina ozeleko utjengiswe ngenzasi:</p>  <p style="text-align: center;">$36 + 13 = 49$</p>
<p>Bese, tjengisani ebhodini bonyana niwasebenzisa bunjani amaqhinga wokubala ngokweqa ukurarulula umraro: 47 + 21</p> <ul style="list-style-type: none"> • Tshwaya ama-47 + 21 enambalayinini. • Phula ama-21 ngama-20 nangoku-1 • Yeqa ukuya phambili ngama-20 bese weqa uye phambili ngaku-1. Abanye abafundi bazokwenza imeqo emibili eya phambili ye-10 kunokobana beqe munye umeqo wokuya phambili ema-20 - nalokho kulungile. • Yipha ipendulo. <p>Utitjhere: Ngokunjalo ama- 47 + 21 afana nama- 47 + 20 + 1 = 68</p>	<p>Umfanekiso wokugcina ozeleko utjengiswe ngenzasi:</p>  <p style="text-align: center;">$47 + 21 = 68$</p> <p style="text-align: center;">$47 + 20 + 1 = 68$</p>

Ukubuyelela kabili nokuhafula phakathi

Tlola imitjho yeenomboro njengobana kutjengisiwe.	
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Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjesi balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$$43 + 24 \quad 31 + 25$$

Abafundi bafanele bahlathulule ukucabanga kwabo, “isib. ama-43 + 24, ngihlanganisa ama-20 ukuthola ama-63 bese ngihlanganisa noku-4, ngokunjalo ipendulo izokuba ma-67.”

Tjela abafundi bangabali ngaku-1

Ividiyo esekelako

Amaqhinga wokubala ngokweqa wesi-2



<https://youtu.be/6RkP5bSpINQ>

Ukubuyelela kabili nokuhafula phakathi

Ividiyo esekelako

Amaqinga wokubala ngokweqa wesi-3



<https://youtu.be/JAGey218ADw>

Ukubuyelela kabili nokuhafula phakathi

AMAQHINGA WOKUBALA NGOKWEQA: ISIFUNDO ESITHOMAKO SESI-3

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Pop-Fizz: kunengi nge-10 begodu kuncani nge-10; kunengi ngama-20 begodu kuncani ngama-20

Ukulandelana komsebenzi

Esifundweni lesi singezelela amakghono wokubala ngokweqa ukufaka hlangu amagadango wokweyamela etjhumini.

<p>Tjengisa ebhodini bonyana usebenzisa njani amaqhinga wokubala ngokweqa ukurarulula imiraro: ama-35 + 16</p> <p>Tlolani umutjho wenomboro ebhodini bese nigwala inambalayini enganalitho</p> <ul style="list-style-type: none">• Sitshwaya ama-35 enambalayinini.• Siphula i-16 nge-10 nangesi-6• Seqa siye phambili nge-10 sifike ema-45. Seqa isi-6 esiseleko ngokweyamela isibuyabuyelelo se-10 esilandelako (lokhu kwenza ama-50). Ngokunjalo isi-6 sifanele siphulwe ngoku-5 nangoku-1.• Yiphani ipendulo. <p>Utijtjhere: Ngokunjalo ama-35 + 16 afana nama-</p> $35 + 10 + 6 = 51 \text{ nofana}$ $35 + 10 + 5 + 1 = 51.$ <p>Tlola imitjho yeenomboro njengabana kutjengisiwe.</p>	<p>Umfanekiso wokugcina ozeleko utjengiswe ngenzasi:</p> <p>$35 + 16 = 51$</p> <p>Tree diagram for 16: 16 splits into 10 and 6; 6 splits into 5 and 1.</p> <p>Number line: 35, 45, 50, 51. Arrows show +10 from 35 to 45, +5 from 45 to 50, and +1 from 50 to 51.</p>
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Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjesi balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$$39 + 23 \quad 68 + 35$$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. ama-39 + 23, ngihlanganisa ama-20 ema-39 ukuthola ama-59, ngihlanganisa noku-1 ukuthola ama-60, begodu noku-2, ngokunjalo ipendulo izokuba ma-62.

Tjela abafundi bangabali ngaku-1.

Nikela abaqeda masinya eminye imisebenzi yokuzijayeza:

$$36 + 28 \quad 47 + 34$$

Ukubuyelela kabili nokuhafula phakathi

AMAQHINGA WOKUBALA NGOKWEQA: ISIFUNDO ESITHOMAKO SESI-4

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Yeqela esibuyabuyelelweni setjhumi **esilandelako**.

Lokhu akusikho ukutjhideza etjhumini eliseduze kodwana kukukweqela esibuyabuyelelweni setjhumi **esilandelako** enambalayinini.

“Ngisiphi isibuyabuyelelo setjhumi **esilandelako ngemuva kwama- ...?**”

Utijhere: 47 → Umfundi: 50
Utijhere: 55 → Abafundi: 60
Utijhere: 32 → Abafundi: 40 njalo njalo ...

Ukulandelana komsebsnzi

Esifundweni lesi sisebenzisa amaqhinga wokubala ngokweqa ukurarulula imiraro yeenomboro ezingekho.

Tjengisa ebhodini bonyana usebenzise bunjani amaqhinga wokubala ngokweqa ukurarulula umraro olandelako: $23 + \square = 37$

Tlola umutjho wenomboro ebhodini bese ugwala inambalayini enganalitho.

Tshwaya ‘ama-23’ enambalayinini.

Utijhere: Sifanele seqele phambili ema-37.

Tshwaya ama-37 enambalayinini.

Utijhere: Ngimuphi umeqo wamatjhumi, begodu newamayunithi esifanele siyenze?

Abafundi: Seqa kali-10 ukuthola ama-33 begodu seqa ka-4 ukuthola ama-37.

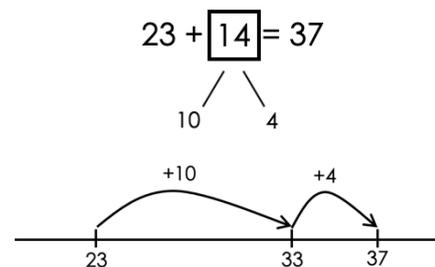
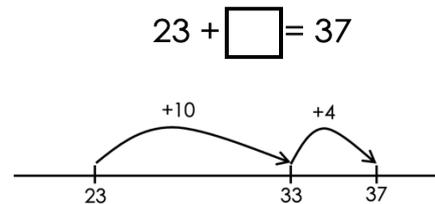
Gwala imeqo leyo enambalayinini.

Utijhere: Lingangani inani lemeqo esiyeqileko?

Abafundi: 14

Tlola i-14 ngebhlogweni.

Utijhere: Ngokunjalo ama- $23 + 10 + 4$ afana nama- $23 + 14 = 37$.



Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjesi balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$$45 + \square = 67 \quad 67 + \square = 81$$

Abafundi bafanele bahlathulule ukucabanga kwabo, “isib. ama- $45 + \square = 67$, ngihlanganisa ama-20 ema-45 ukuthola ama-65, bese ngihlanganisa noku-2 ukuthola ama-67, ngokunjalo inani lemeqo lima-22.”

Tjela abafundi bangabali ngaku-1.

Ukubuyelela kabili nokuhafula phakathi

Nikela abafundi abaqede masinya eminye imisebenzi yokuzijayeza.

$$45 + \square = 68 \quad 67 + \square = 83$$

Umsebenzi wekhaya – IPhepha lokusebenzela loku-1

Ekupheleni kwesifundo sanamhlanje nikela abafundi iphepha lokusebenzela loku-1

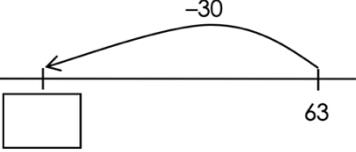
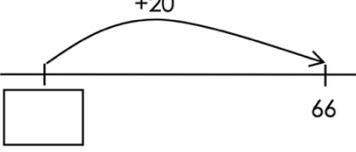
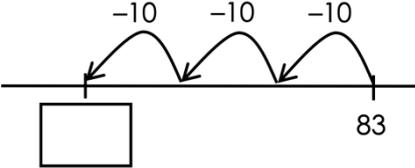
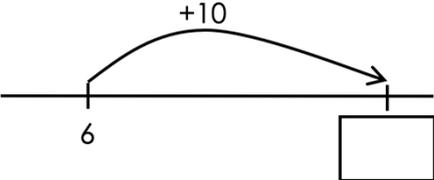
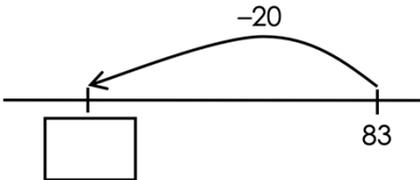
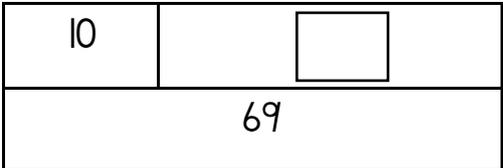
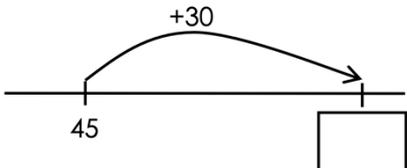
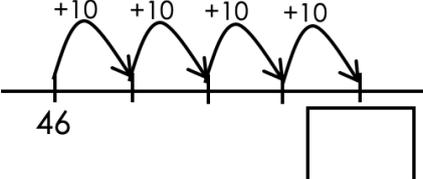
Akuthogeki bonyana uqintele abafundi isikhathi sokwenza iphepha lokusebenzela leli. Umnqopho kukunikela abafundi umsebenzi othileko otlolwako wokuzijayeza abawenza ngehloko.

Ividiyo esekelako

Amaqhinga wokubala ngokweqa wesi-4



<https://youtu.be/A9vFXHWkzUo>

Igama:	
Amaq'hinga wokubala ngokweqa: IPhepha lokusebenzela loku-l	
I. $75 - 10 = \square$	II. $14 + 50 = \square$
2. 	12. 
3. 17 27 37 \square 57	13. 86 76 66 56 \square
4. $47 + \square = 50$	14. $68 - \square = 8$
5. Ngisiphi isibuyabuyelelo se-10 esilandelako? 	15. 
6. 	16. 
7. $52 - 20 = \square$	17. $4 + 50 = \square$
8. 	18. 
9. 	19. Ngisiphi isibuyabuyelelo se-10 esingaphambili kwama-37? 
10. $45 + \square = 85$	20. $97 - 60 = \square$

Ukubuyelela kabili nokuhafula phakathi

Amanowuthi katitjhere

Lapha ungatlola amanowuthi ngesifundo begodu nokobana ngibaphi abafundi abasadinga isizo lamaqhinga ahlukahlukene. Ungatlola godu amanowuthi wezinye izinto osafuna ukuzilungisa esifundweni esilandelako esithomako.

Ukubuyelela kabili nokuhafula phakathi

Ividiyo esekelako

Amaqinga wokubala ngokweqa wesi-5



<https://youtu.be/dFV5gmY68Sc>

Ukubuyelela kabili nokuhafula phakathi

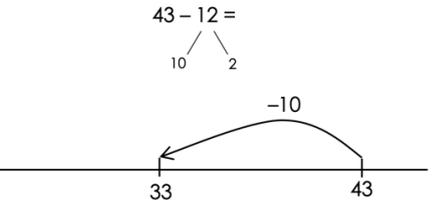
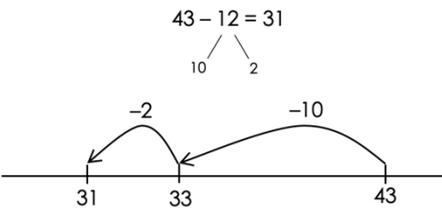
AMAQHINGA WOKUBALA NGOKWEQA: ISIFUNDO SOKUTHOMA SESI-5

Umzuzu mu-1 wokukhaliphisa umkhumbulo

- Zombezeza itlasi kanengi nge-10
- Zombezeza itlasi kancani nge-10

Ukulandelana komsebenzi

Esifundeni lesi sisebenzisa amaqhinga wokubala ngokweqa ukurarulula imiraro zokubalisisa ukukhupha.

<p>Umraro: $43 - 12$</p> <p>Tlola '43 - 12 =' ebhodini.</p> <p>Tshwaya ama '43' eduze nekugcineni komuda. (ngombana ukukhupha kutjho bonyana sizokweqa sibuyele emuva)</p>	<p>$43 - 12 =$</p> 
<p>Utijhere: Sifanele seqe sibuyele emuva nge-12. Asiphuleni i-12 nge-10 nangoku-2. Ayini ama-43 - 10?</p> <p>Abafundi: 33</p> <p>Yenza umeqo yokukhupha i -10, ufike ema-33.</p>	<p>$43 - 12 =$</p> 
<p>Utijhere: Sisafanele seqe siye emuva ka-2. Ayini ama-33 nakakhutjhwa ku-2?</p> <p>Umfundi: 31</p> <p>Tlola enambalayinini njengombana kutjengisiwe.</p> <p>Utijhere: Sikhuphe i-12 ngokukhupha i-10 begodu sakhupha noku-2</p> <ul style="list-style-type: none"> • Sitshwaya inomboro yokuthoma. • Siphula inomboro yesibili • Seqa amatjhumi begodu nabokunye/amayunithi (imeqo ebuyela emuva ngombana siyakhupha) • Sipa ipendulo. <p>Utijhere: Ngokunjalo ama-43 - 12 afana nama-43 - 10 - 2 = 31. Tlola imitjho yeenomboro njengobana kutjengisiwe.</p>	<p>$43 - 12 = 31$</p> 

Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjesi balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$$62 - 12 \quad 53 - 11$$

Abafundi bafanele bahlathulule ukucabanga kwabo, "isib. ama-62 - 12, ngikhupha i-10 ema-62 ukuthola ama-52, bese ngikhupha ku-2, ngokunjalo ipendulo izokuba ma-50."

Tjela abafundi bangabali ngaku-1.

AMAQHINGA WOKUBALA NGOKWEQA: ISIFUNDO SOKUTHOMA SESI-6

Umzuzu mu-1 wokukhaliphisa umkhumbulo

a. Hlanganisa i-10 (nofana hlanganisa isibuyabuyelelo se-10)

Yindlela efanako nokuthi ‘kunengi nge-10’, kodwana kulesi isikhathi utitjhere unikela umraro ‘wokuhlanganisa ne-10’

- Utitjhere: $16 + 10 \rightarrow$ Abafundi: 26
- Utitjhere: $84 + 10 \rightarrow$ Abafundi: 94
- Utitjhere: $96 + 10 \rightarrow$ Abafundi: 106 njala njalo ...

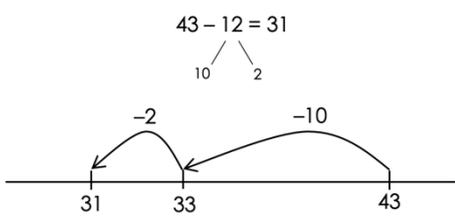
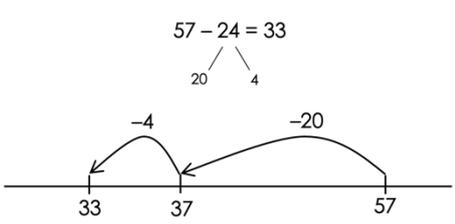
a. Khupha i-10 (nofana khupha isibuyabuyelelo se-10)

Yindlela efanako nokuthi ‘kuncani nge-10’, kilesi isikhathi utitjhere unikela umraro ‘wokukhupha’ i-10

- Utitjhere: $56 - 10 \rightarrow$ Abafundi: 46
- Utitjhere: $84 - 10 \rightarrow$ Abafundi: 74
- Utitjhere: $95 - 10 \rightarrow$ Abafundi: 85 njalo njalo ...

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa amaqhinga wokubala ngokweqa ukurarulula imiraro yokubalisisa ukukhupha.

<p>Bawa abafundi bonyana balinge ukukhumbula okwenziwe izolo: Sirarulule bunjani ama-$43 - 12$?</p> <p>Vumela abafundi bonyana bahlathululelane indlela abayisebenzisileko kilaba abahlezi nabo, bese ubawa ngababili batjengise ebhodini. Khumbuza abafundi amagadango abawafunde ngaphambilini: tshwaya, phula, yeqa (ubuyele emuva) begodu phendula.</p>	<p>Umfanekiso wokugcina ozeleko utjengiswe ngenzasi:</p> 
<p>Tjengisani ebhodini bonyana nirarulule bunjani ama-$57 - 24$</p> <p>Tshwayani ama-‘57’ enambalayinini. Phulani ama-24 ngama-20 begodu nangoku-4.</p> <p>Yeqani nibuyele emuva ngama-20 begodu yeqani nibuyele emuva ka-4. Abanye abafundi bazokwenza imeqo emibili yokubuyela emuva nge-10 kunomeqo owodwa wokubuyela emuva ngama-20 – lokhu kulungile.</p> <p>Tlolani ipendulo. Utitjhere: Ngokunjalo ama- $57 - 24$ afana nama-$57 - 20 - 4 = 33$.</p> <p>Tlolani umutjho wenomboro njengobana kutjengisiwe.</p>	<p>Umfanekiso wokugcina ozeleko utjengiswe ngenzasi:</p> 

Ukubuyelela kabili nokuhafula phakathi

Imisebenzi yofundi ngamunye

Abafundi bafanele kwanjesi balinge ukwenza iimbonelo ezilandelako *ngehloko*:

95 – 23 43 – 22

Abafundi bafanele bahlathulule ukucabanga kwabo, “isib. ama-95 – 23, ngikhupha ama-20 ema-95 ukuthola ama-75, bese ngikhupha ku-3, ngokunjalo ipendulo izokuba ma-72.”

Tjela abafundi bangabali ngaboku-1.

Abafundi ababhalelwa kukwenza umsebenzi lo ngehloko bangagwala inambalayini nanyana imatlhantlha ukwenzela ukubasiza.

Ividiyo esekelako

Amaqinga wokubala ngokweqa wesi-6



<https://youtu.be/JQq2zL6pwCM>

Ukubuyelela kabili nokuhafula phakathi

Ividiyo esekelako

Amaqinga wokubala ngokweqa we-7



<https://youtu.be/uFGzuToKGkA>

AMAQHINGA WOKUBALA NGOKWEQA: ISIFUNDO SOKUTHOMA SE-7

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Ukweqela isibuyabuyelelo setjhumi **esingaphambili**.

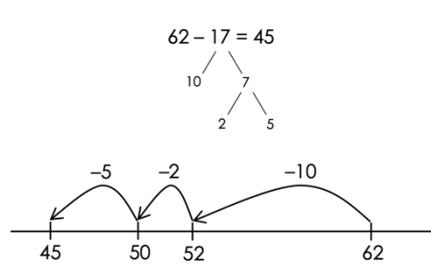
Lokhu akusikho ukutjhideza etjhumini eliseduze kodwana kukukweqela isibuyabuyelelo setjhumi **esingaphambili** enambalayinini.

“Nginikela isibuyabuyelelo setjhumi esiza **ngaphambi** kwama- ...”

Utijhere: 26 → Abafundi: 20
 Utijhere: 53 → Abafundi: 50 njalo njalo ...

Ukulandelana komsebenzi

Esifundweni lesi singezelela amaqhinga wokubala ngokweqa ukufaka hlangana amagadango wokweyamela etjhumini.

<p>Tjengisa ebhodini bonyana weyamela bunjani etjhumini ukurarulula: $62 - 17$ Tshwaya ama-‘62’ enambalayinini enganalitho. Phula i-17 nge-10 nange-7. Yeqa ubuyele emuva nge-10 ukufika ema-52. Yeqa ubuyele emuva nge-7 eliseleko ngokweyamela esibuyabuyelelweni se-10 esingaphambili (lokhu kuma-50) Ngokunjalo i-7 lifanele liphulwe ngoku-2 begodu nangoku-5. Yeqa ubuyele emuva ka-2 begodu nangaku-5. Tlola ipendulo.</p>	<p>Umfanekiso wokugcina ozeleko utjengiswe ngenzasi:</p>  <p>The diagram illustrates the subtraction $62 - 17 = 45$. It shows a tree diagram where 17 is split into 10 and 7, and 7 is further split into 2 and 5. Below this, a number line starts at 45 and ends at 62. Arrows indicate jumps: a jump of -5 from 45 to 50, a jump of -2 from 50 to 52, and a jump of -10 from 52 to 62.</p>
<p>Utijhere: Ngokunjalo ama-$62 - 17$ afana nama-: $62 - 10 - 7 = 45$ nofana $62 - 10 - 2 - 5 = 45$</p>	<p>$62 - 10 - 7 = 45$ $62 - 10 - 2 - 5 = 45$</p>

Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjesi balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$75 - 18$ $93 - 14$

Abafundi bafanele bahlathulule ukucabanga kwabo, “isib. ama-75 – 18, ngikhupha i-10 ema-75 ukuthola ama-65 bese ngikhupha ku-5 ukuthola ama-60, bese ngikhupha ku-3, ngokunjalo ipendulo izokuba ma-57.”

Tjela abafundi baNGAbalo ngaku-1

Nangabe kunanyana ngibaphi abafundi abaqede umsebenzi masinya, banikela eminye imisebenzi yokuzijayeza:

$73 - 28$ $62 - 35$

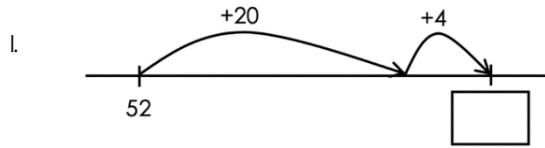
Umsebenzi wekhaya – Iphepha lokusebenzela lesi-2

Ekugcineni kwesifundo sanamhlanje nikela abafundi iphepha lokusebenzela lesi-2. Akutlhogeki bonyana uqintele abafundi isikhathi sokwenza iphepha lokusebenzela leli. Umnqopho kukunikela abafundi umsebenzi othileko wokutlolela ukuzijayeza abawenza ngehloko.

Ukubuyelela kabili nokuhafula phakathi

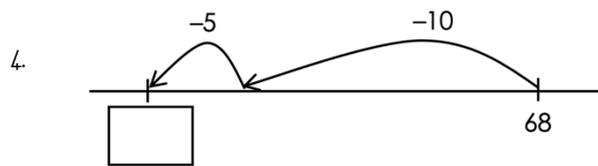
Igama:

Amaqhinga wokubala ngokweqa: Iphepha lokusebenzela lesi-2



2. $45 + 8 =$

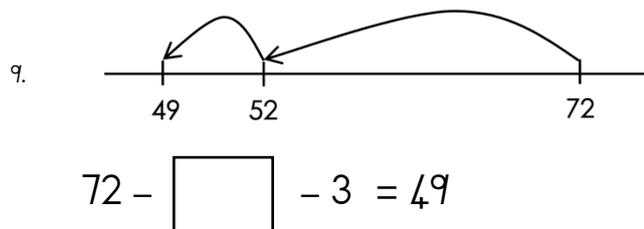
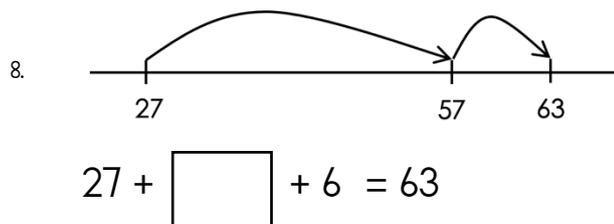
3. $64 - 25 =$



5. $18 +$ $= 42$

6. $73 -$ $= 58$

7. $53 - 24 = 53 -$ $- 4$



10. $86 -$ $= 86 - 20 - 9$

Ukubuyelela kabili nokuhafula phakathi

Amanowuthi katitjhere

Lapha ungatlola amanowuthi ngesifundo begodu nokobana ngibaphi abafundi abasadinga isizo lamaqhinga ahlukahlukene. Ungatlola godu amanowuthi wezinye izinto osafuna ukuzilungisa esifundweni sokuthoma esilandelako.

Ukubuyelela kabili nokuhafula phakathi

Ividiyo esekelako

Amakghono wokubala ngokweqa wobu-8



<https://youtu.be/BHC9jDIUdRI>

Ukubuyelela kabili nokuhafula phakathi

AMAQHINGA WOKUBALA NGOKWEQA: ISIFUNDO ESITHOMAKO SOBU-8

Umzuzu mu-1 wokukhaliphisa umkhumbulo

- Ukweqela esibuyabuyelelweni setjumi **esingemuva**
- Ukukhupha esibuyabuyelelweni ze-10

Ukulandelana komsebenzi

Efundweni lesi sisebenzisa amaqhinga wokubala ngokweqa ukurarulula imiraro yenomboro engekho.

Umraro: $84 - \square = 61$

Tshwaya ama-'84' enambalayinini.

Utijhere: Sifanele seqe sibuyele emuva ema-61.

Tshwaya ama-'61' enambalayinini.

Utijhere: Ngimiphi imeqo yamatjumi begodu nemeqo yamayunithi esifanele siyenze?

Abafundi: Khupha ama-20 ukufika ema-64 begodu ukhuphe ku-3 ukufika ema-61.

Gwala imeqo leyo enambalayinini.

Utijhere: Lingangani inani lemeqo esiyeqe nasibuyela emuva?

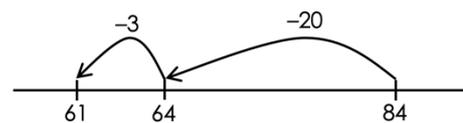
Abafundi: 23

Tlola ipendulo ebhlogweni.

Utijhere: Ngokunjalo ama- $84 - 20 - 3$ afana nama- $84 - 23 = 61$

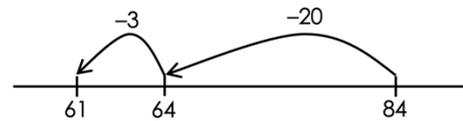
Tlola umutjho wenomboro njengabana kutjengisiwe.

$$84 - \square = 61$$



$$84 - \boxed{23} = 61$$

20 3



Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjesi balinge ukwenza iimbonelo ezilandelako *ngeloko*:

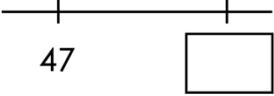
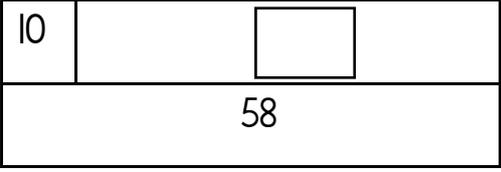
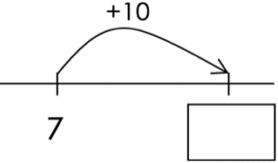
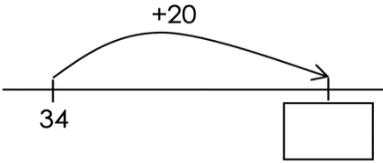
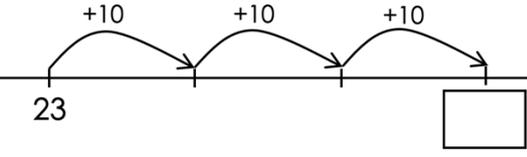
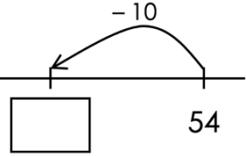
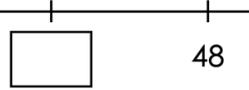
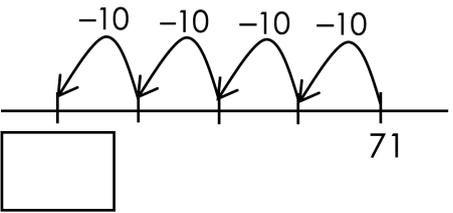
$$75 - \square = 62 \quad 93 - \square = 69$$

Abafundi bafanele bahlathulule ukucabanga kwabo, "isib. ama- $75 - \square = 62$, ngikhupha i-10 ukuthola ama-65, bese ngikhupha ku-3 ukuthola ama-62, ngokunjalo inani lemeqo ili-13."

Tjela abafundi bangabali ngaku-1.

Nangabe kunabafundi baqede imisebenzi le masinya, banikele eminye yokuzijayeza

$$75 - \square = 63 \quad 94 - \square = 69$$

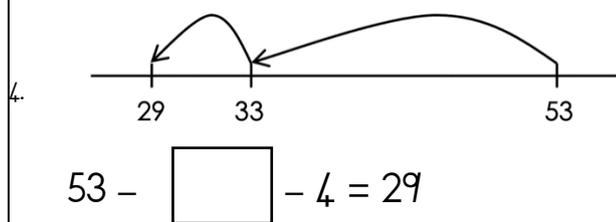
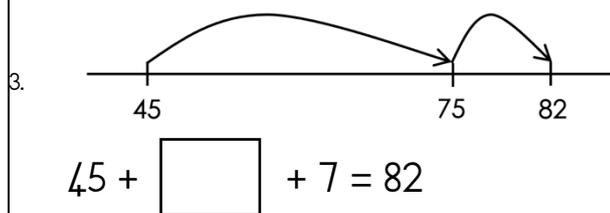
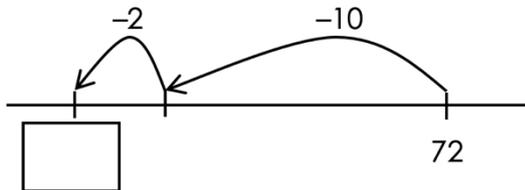
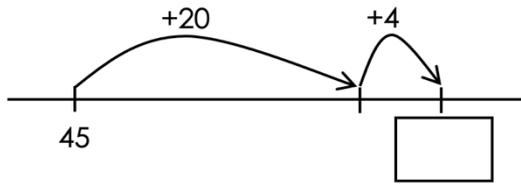
Igama:	
Amaqhinga wokubala ngokweqa: Ngemuva kokuhlolwa	
INGCENYE YOKU-I	Imizuzu emi-2 yenzelwe ikhasi leli
1. Zalisa inomboro engekho. 12, 22, 32, 42, <input type="text"/>	1. Ngisiphi isibuyabuyelelo se-10 esilandelako? 
2. Zalisa inomboro engekho. 79, 69, 59, 49, <input type="text"/>	
3. $6 + 30 =$ <input type="text"/>	2. 
4. $57 - 10 =$ <input type="text"/>	
5. 	3. 
6. 	4. $16 + 30 =$ <input type="text"/>
7. 	5. Ngisiyini isibuyabuyelelo se-10 esingaphambili kwama-48? 
8. $37 +$ <input type="text"/> $= 40$	6. $79 - 40 =$ <input type="text"/>
9. 	7. $38 -$ <input type="text"/> $= 18$
	8. <input type="text"/> $- 20 = 64$
10. $31 - 20 =$ <input type="text"/>	9. $37 +$ <input type="text"/> $= 77$
	20. <input type="text"/> $+ 20 = 66$
Inani seliloke: 20	

Ukubuyelela kabili nokuhafula phakathi

Amaqhinga wokubala ngokweqa: Nge muva kokuhlolwa

INGCENYE YESI-2

Imizuzu emi-3 yenzelwe ikhasi leli



5. $57 + 26 = \square$

6. $83 - 24 = \square$

7. $19 + \square = 41$

8. $52 - \square = 37$

9. $61 - 32 = 61 - \square - 2$

10. $74 - \square = 74 - 20 - 5$

Inani seliloke: 10

Ukubuyelela kabili nokuhafula phakathi

UKUBUYELELA KABILI NOKUHAFULA PHAKATHI

Isingeniso

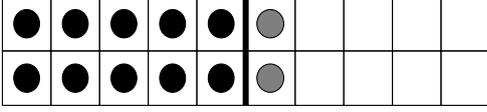
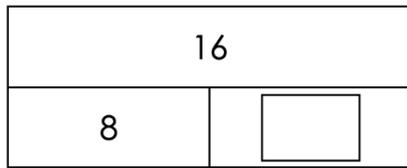
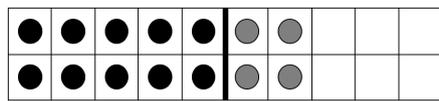
Umnqopho weemfundo ezithomako ezintathu zokuthoma ukukhumbula ukubuyelela kabili ukufika ekubuyeleleni i-10 begodu nekuhafuleni iinomboro-lingana ukufika ema-20. Sihlobanisa ukukhumbula lokhu nelimi begodu nemifanekiso eqakathekileko yokubuyelela kabili/yokuhafula. Eemfundweni ezithomako ezihlanu ezilandelako, umnqopho ukusebenzisa amaphuzu wokukhumbula lawa ukubala ngengqondo iinomboro ezikulu ezibuyelwa kabili begodu nezihafulako. Eminye yemisebenzi irholwa ngutitjhere ebhodini begodu eminye ngeyenziwa bafundi ngokuzijamela.

Amakghono wokukhumbula masinya

KunAmakghono wokukhumbula masinya amathathu adingwa bafundi ukuze bafunde ukubuyelela kabili begodu nokuhafula:

- ukubuyelela kabili ukufika ekubuyeleleni i-10 (isib. uku-4 nakabuyelwa kabili uba bu-8 nofana i-7 nalibuyelwa kabil liba yi-14);
- amahafu weenomboro-lingana ukufika ema-20 (isib. Ihafu yesi-6 nguku-3 nofana ihafu ye-18 li-9);
- ukubuyelela kabili namahafu iinomboro 'zobungani' (isib. ama-30 nakabuyelwa kabili aba ma-60 nofana ihafu yama-50 ma-25 nofana ama-200 nakabuyelwe kabili ma-400).

Ukubuyelela kabili nokuhafula phakathi

Igama:	
Ukubuyelela kabili nokuhafula phakathi: Ngaphambi kokuhlolwa	
INGCENYE YOKU-I	Imizuzu emi-2 yenzelwe ikhasi leli
<p>1. </p> <p>$6 + 6 = \square$</p>	<p>11. $15 + 15 = \square$</p>
<p>2. Ihafu ye-12 = <input type="text"/></p>	<p>12. $7 \times 2 = \square$</p>
<p>3. $9 + 9 = \square$</p>	<p>13. Ihafu ye- <input type="text"/> = 7</p>
<p>4. ubu-8 nabubuyelelwa kabili = <input type="text"/></p>	<p>14. i-100 nalibuyelelwa kabili = <input type="text"/></p>
<p>5. <input type="text"/> $\times 2 = 12$</p>	<p>15. ama-20 nakabuyelelwa kabili = <input type="text"/></p>
<p>6. </p>	<p>16. Ihafu yama- <input type="text"/> = 40</p>
<p>7. i-10 nalibuyelelwa kabili = <input type="text"/></p>	<p>17. Ihafu yama-50 = <input type="text"/></p>
<p>8. </p> <p>ihafu ye-14 = <input type="text"/></p>	<p>18. $16 \div 2 = \square$</p>
<p>9. $10 \div 2 = \square$</p>	<p>19. ihafu yama-30 = <input type="text"/></p>
<p>10. ihafu ye-18 = <input type="text"/></p>	<p>20. $2 \times 60 = \square$</p>
Inani seliloke: 20	

Ukubuyelela kabili nokuhafula phakathi

Ukubuyelela kabili nokuhafula phakathi: Ngaphambi kokuhlolwa	
INGCENYE YESI-2	Imizuzu emi-3 yenzelwe ikhasi leli
1.	ama-42 nakabuyelelwa kabili = <input type="text"/>
2.	$36 \times 2 =$ <input type="text"/>
3.	$64 \div 2 =$ <input type="text"/>
4.	ihafu ye-102 = <input type="text"/>
5.	ama-47 nakabuyelelwa kabili = <input type="text"/>
6.	ihafu yama-38 = <input type="text"/>
7.	ihafu ye- <input type="text"/> = 52
ama-39 nakabuyelelwa kabili ma-78	
8.	ihafu yama-78 ima- <input type="text"/>
9.	$39 + 38 =$ <input type="text"/>
10.	ama-39 nakabuyelelwa kabili = $40 + 40 -$ <input type="text"/>
Inani seliloke: 10	

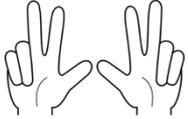
Ukubuyelela kabili nokuhafula phakathi

UKUBUYELELA KABILI NOKUHAFULA PHAKATHI: ISIFUNDO ESITHOMAKO SOKU- 1

Umzuzu mu-1 wokukhaliphisa umkhumbulo

'Ngiyanitjengisa, niyatjho' (umsetjenzana wetlasi loke bese kuba ngewabafundi ngababili)

a. Utitjhere utjengisa inomboro 'ebuyelelwa kabili' asebenzisa imino yezandla zombili, isib.



Ku-3 nakubuyelelwa kabili kwenza isi-6. Nje-ke ngitjelani bonyana umutjho wemino yezandla engitjengisa zona itjho ukuthini?

Utitjhere utjengisa: Ku-4 nakubuyelelwa kabili. Ku-1 nakubuyelelwa kabili

Ku-3 nakubuyelelwa kabili Ku-5 nakubuyelelwa kabili Ku-2 nakubuyelelwa kabili

Abafundi batjho umutjho ofaneleko, isib. 'Ku-4 nakubuyelelwa kabili kwenza ubu-8'.

b. Abafundi ngokusebenza ngababili bangangezelela umsetjenzana lo batjengise isi-6 nasibuyelelwa kabili – i-10 nalibuyelelwa kabili basebenzisa imino yabo:

Utitjhere: Ngitjengisani ngababili isi-6 esibuyelelwa kabili.



Abafundi ngababili:

Utitjhere: Mingaki imino esi-6 nayibuyelelwa kabili seyyoke?

Bawa abafundi bamadanisa izandla zabo ezizeleko begodu nezandla ezinomuno owodwa ovulekileko. Siza abafundi babone bonyana ipendulo ili-12 lenziwe ngezandla ezimbili ezinemino emi-5 begodu nezandla ezimbili ezinomuno owodwa-1

5 + 5 begodu 1 + 1.

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa amaphuzu asisekelo wokubuyelela kabili nokuhafula phakathi ukufika ema-20.

Umraro: isi-6 nasibuyelelwa kabili

Tjengisani amaqatjhazi asithandathu wehafu eyodwa asekaradeni lamaqatjhazi abuyelelwe kabili. Vulani ikarada

Utitjhere: Nje-ke nginesithandathu esibuyelelwe kabili.

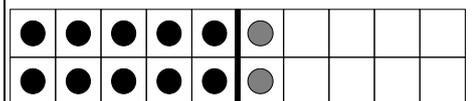
Mangaki amaqatjhazi sewawoke?

Abafundi: 12

Utitjhere: Nazi kunjani bonyana isi-6 nasibuyelelwa kabili

sili-12?

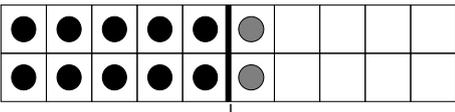
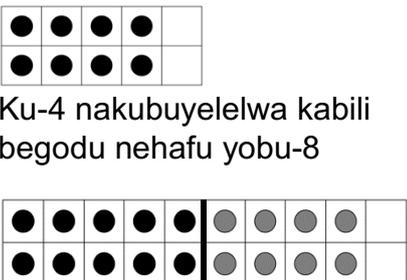
Lalela abafundi abathi ikarada elibuyelelwa kabili litjengisa: 'isi-6 nesi-6', 'iinqhema ezimbili zesi-6', 'kubili nakubuyabuyelelwa ngesi-6', '6 x 2'



Isi-6 nasibuyelelwa kabili = 12
linqhema ezimbili zesi-6 zenza
i-12

Kubili nakubuyabuyelelwa
ngesi-6 kwenza i-12

$$6 \times 2 = 12$$

<p>Umraro: ihafu ye-12 Tjengisani amaqatjhazi alitjumi nambili asekaradeni lamaqatjhazi abuyelelwe kabili. Binca ihafu yekarada ngobude. Utitjhere: Nje-ke ngikghona ukubona ihafu yamaqatjhazi ali-12 begodu nani nikwazi ukubona ihafu yawo. Ngokunjalo iyini ihafu ye-12? Abafundi: 6 Utitjhere: Nazi njani bonyana ipendulo si-6? Lalela abafundi abanikela ihlathululo efana nale: 'ihafu ye-12 si-6 nofana itjumi nambili nalihlukaniswa iingcenywe ezimbili lenza isi-6' nofana itjumi nambili nalabiwa hlangana nababili lenza isithandathu' nofana '12 ÷ 2 = 6' Nangabe abekho abanikela iimpindulo ezifana nalezi, khuthaza itlasi libuyelele imitjho leyo ngemuva kwakho. Tlola indlela ezihlukahlukene lezi ebhodini.</p>	 <p>Ihafu ye-12 si- 6</p> <p>Itjumi nambili nalihlukaniswa iingcenywe ezi-2 ezilinganako lenza isi-6.</p> <p>Itjumi nambili nalabiwa hlangana naba-2 enza isi-6.</p> <p>$12 \div 2 = 6$</p> <p>(limbonelo lezi zifanele zisale ebhodini.)</p>
<p>Buyelela: amakarada wamaqatjhazi ama-4 nakubuyelelwa kabili begodu newe-9 nalibuyelelwa kabili Amararada wamaqatjhazi wehafu yobu-8 newehafu yama-20 Bawa itlasi litjho imitjho ehluhlukeneko emadanisa amakarada wamaqatjhazi abuyelelwa kabili newamakarada wamaqatjhazi ahafulweko. Khuthaza abafundi bonyana babona abokuhlano (amaqatjhazi anzima khulu) emakaradeni wamaqatjhazi begodu nokuwasebenzisa ukuthola inani lamaqatjhazi masinya. Ngokunjalo i-9 nalibuyelelwa kabili singabona aboku-5 ababili njenge-10 begodu naboku-4 ababili njengo-8 ngokunjalo i-9 nalibuyelelwa kabili lenza i-18.</p>	 <p>Ku-4 nakubuyelelwa kabili begodu nehafu yobu-8</p> <p>I-9 nalibuyelelwa kabili</p> <p>Ihafu yama-20</p>

Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjesi balinge ukwenza umsebenzi osephepheni elinikelweko lesifundo esithomako soku-1 ngabodwana. Abafundi bafanele bazalise imitjho, begodu batlole imitjho, ngaphasi komfanekiso ngamunye wamakarada wamaqatjhazi asephepheni lomsebenzi.

Ukubuyelela kabili nokuhafula phakathi

Ividiyo esekelako

Ukubuyelela kabili nokuhafula koku-1



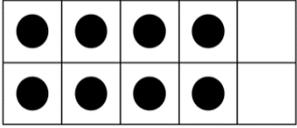
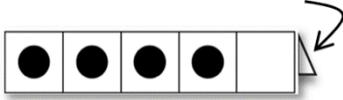
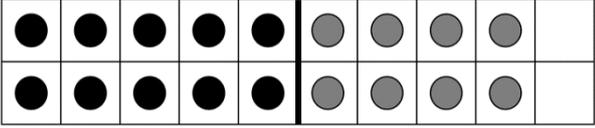
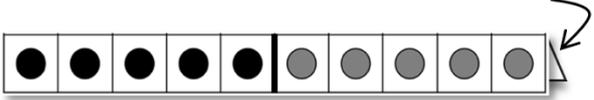
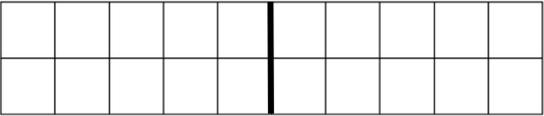
<https://youtu.be/UMmzMVM-SS0>

Ukubuyelela kabili nokuhafula phakathi

Igama:

Isifundo Esithomako soku-1 sokubuyelela kabili nokuhafula phakathi: Umsebenzi womfundi ngamunye

Zalisa umut jho nofana tlola imit jho yesithombe ngasinye.

<p>1. ku-4 nakubuyelelwa kabili</p>  <p>Nakubuyelelwa <input type="text"/> kabili kwenza <input type="text"/></p> <p>Iinqhema ezimbili zika-<input type="text"/> zenza <input type="text"/></p> <p>Kubili nakubuyabuyelelwa ka-<input type="text"/> kwenza <input type="text"/></p> <p><input type="text"/> x 2 = <input type="text"/></p>	<p>2. Ihafu yobu-8</p>  <p>Ihafu yobu-<input type="text"/> nguku-<input type="text"/></p> <p>ubu-8 nabuhlukaniswa ka-2 benza <input type="text"/></p> <p>ubu-8 nababiwa hlanguka kwababili buba ngu-<input type="text"/></p> <p><input type="text"/> ÷ 2 = <input type="text"/></p>
<p>3. i-9 nalibuyelelwa kabili</p>  <hr/> <hr/> <hr/> <hr/>	<p>4. Ihafu yama-20</p>  <hr/> <hr/> <hr/> <hr/>
<p>5. Buyelela kabili <input type="text"/></p> <p>Gwala amaqat jhazi wenomboro yakho:</p>  <hr/> <hr/> <hr/> <hr/>	<p>6. Ihafu ye-<input type="text"/></p> <p>Gwala amaqat jhazi wenomboro yakho:</p>  <hr/> <hr/> <hr/> <hr/>

Ukubuyelela kabili nokuhafula phakathi

UKUBUYELELA KABILI NOKUHAFULA PHAKATHI: ISIFUNDO ESITHOMAKO SESI-2

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Pop-Fizz Ukubuyelela kabili nokuhafula ukufika etjhumini

a. Utitjhere uthi 'pop', abafundi bathi 'fizz', utitjhere utjho inomboro, abafundi baphendula **ngokubuyelela kabili** (nofana ngokubuyabuyelela inomboro ekune-10):

Utitjhere: pop	→	Abafundi: fizz	
Utitjhere: 1	→	Abafundi: 2	
Utitjhere: pop	→	Abafundi: fizz	
Utitjhere: 5	→	Abafundi: 10	njalo njalo ...

Ukubuyelela kabili ukufika e-10: 1 – 2; 3 – 6; 5 – 10; 4 – 8; 2 – 4.

b. Utitjhere uthi 'pop', abafundi bathi 'fizz'; utitjhere utjho inomboro, abafundi baphendula **ngokuhafula** inomboro (nofana ukubuyabuyelelwa kwenomboro ezingaphasi kwe-10):

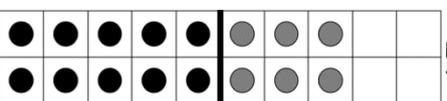
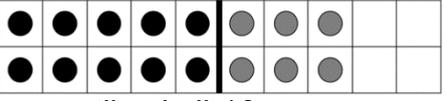
Utitjhere: pop	→	Abafundi: fizz	
Utitjhere: 8	→	Abafundi: 4	
Utitjhere: pop	→	Abafundi: fizz	
Utitjhere: 6	→	Abafundi: 3	njalo njalo ...

Ukuhafula ukufika e-10: 10 – 5; 6 – 3; 4 – 2; 8 – 4; 2 – 1

Ukulandelana komsebenzi

Esifundweni lesi sizijayeza amaphuzu asisekelo wokubuyelela kabili begodu newokuhafula phakathi ukufika e-20.

Yeleva: Amakarada wamaqatjhazi abuyelela kabili ayatholakala encwadini i-Print Master.

<p>Umraro: Ubudlelwano bobu-8 nabubuyelelwa kabili = <input type="text"/>; ihafu ye-16 = <input type="text"/></p> <p>Sebenzisa ikarada lamaqatjhazi abuyelelwe kabu-8. Libhinqe litjengise isiqhema esisodwa sobu-8. Bese uyalivula utjengise zombili iinqhema zobu-8.</p> <p>Utitjhere: Ngokunjalo buyini ubu-8 nabubuyelelwa kabili?</p> <p>Abafundi: 16</p> <p>Tlola 'ubu-8 nabubuyelelwa kabili = 16' ebhodini</p> <p>Utitjhere: Ngokunjalo iyini ihafu ye-16? (Binca ikarada nawutjho lokhu ukutjengisa bonyana uhafula bunjani nawenza iinqhema ezimbili ezilinganako.)</p> <p>Abafundi: 8</p> <p>Tlola 'ihafu ye-16 = 8' ebhodini ngaphasi komutjho obuyelela kabili limbonelo lezi zifanele zisale ebhodini.</p>	 <p>Amaqatjhazi abu-8</p> <p style="text-align: center;">↓</p>  <p>ubu- 8 nabuyelelwa kabili = 16</p> <p style="text-align: center;">↓</p>  <p>amaqatjhazi ali-16</p> <p style="text-align: center;">↓</p>  <p>Ihafu ye-16 = 8</p>
--	--

Ukubuyelela kabili nokuhafula phakathi

Imisebenzi yomfundi ngamunye

Beka amakarada wamaqatjhazi ama-5 abuyelelwe kabili, ali-7 abuyelelwe kabili begodu newe-9 abuyelelwe kabili ebhodini. Abafundi bafanele batlole imitjho yeenomboro zamakarada abuyelela kabili nahafulako.

Abafundi bafanele bakhuthazwe ukuhlathula ukucabanga kwabo.

Tjela abafundi bangabali ngaku-1.

Nangabe kunabafundi abaqede imisebenzi le masinya, babawe batlole imitjho yeenomboro yamanye amakarada wamaqatjhazi:

Ividiyo esekelako

Ukubuyelela kabili nokuhafula phakathi kwesi-2



<https://youtu.be/8g1unCfK1Lo>

Ukubuyelela kabili nokuhafula phakathi

Ividiyo esekelako

Ukubuyelela kabili nokuhafula phakathi kwesi-3



https://youtu.be/L2_MyczJOyU

Ukubuyelela kabili nokuhafula phakathi

UKUBUYELELA KABILI NOKUHAFULA PHAKATHI: ISIFUNDO ESITHOMAKO SESI-3

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Pop-Fizz Ukubuyelela kabili nokuhafula ukufika ematjhumu amabili

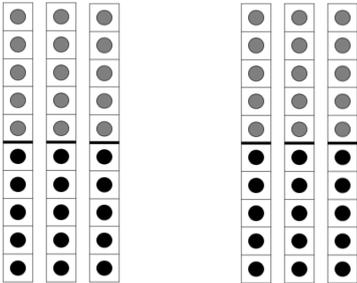
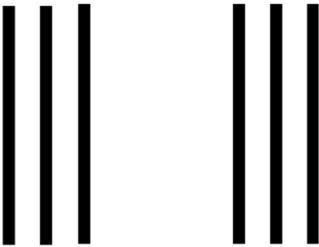
Ukubuyelela kabili ukufika e-20: 1 – 2; 3 – 6; 5 – 10; 4 – 8; 2 – 4; 6 – 12; 9 – 18; 7 – 14;
8 – 16; 10 – 20.

Ukuhafula ukufika ema-20: 10 – 5; 6 – 3; 4 – 2; 8 – 4; 2 – 1; 12 – 6; 18 – 9;
14 – 7; 16 – 8; 20 – 10.

Ukulandelana komsebenzi

Esifundweni lesi sizijayeza ukubuyelela kabili iimbuyabuyelelo zetjhumu.

Yeleva: Imitletlana yamaqatjhazi itholakala encwadini i-Print Master.

<p>Umraro: Ubudlelwano bukaku-3 nakabuyelelwa kabili = <input type="text"/>; ama-30 nakabuyelelwa kabili = <input type="text"/></p> <p>Sebenzisa imitletlana esithandathu yamaqatjhazi ali-10 bese uyayihlela itjengise ama-30 nakabuyelelwe kabili.</p> <p>Utijhere: Siyazi bonyana uku-3 nakabuyelelwa kabili = 6, ngokunjalo ayini ama-30 nakabuyelelwa kabili?</p> <p>Abafundi: 60</p> <p>Utijhere: Ama-30 nakabuyelelwa kabili alingana nama-60, iyini ihafu yama-60?</p> <p>Abafundi: 30</p> <p>Tlola imitjho yeenomboro njengobana kutjengisiwe, bese ukhombwe bonyana isi-6 nama-60 anobudlelwano njengoku-3 nama-30. Tjela abafundi bakhumbule bonyana Ukubuyelela kabili nokuhafula kunobudlelwano.</p> <p>Utijhere: Singasebenzisa imitletlana ukujamiselela i-10 kunokusebenzisa amaqatjhaza alitjhumu ngasosoke isikhathi.</p> <p>Tjengisa abafundi ebhodini bonyana angatjengiswa bunjani amatjhumu ngokuthi usebenzise imitletlana emide oyigwale ebhodini.</p>	<p>uku-3 nakabuyelelwa kabili = 6</p>  <p>Ama-30 nakabuyelelwa kabili = 60</p> <p>Ihafu yama-60 = 30</p> 
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Umsebenzi womfundi ngamunye

Abafundi bafanele kwanjesi balinge ukwenza iimbonelo ezilandelako *ngehloko*:

ku-2 nakubuyelelwa kabili ku-5 nakubuyelelwa kabili i-7 nalibuyelelwa kabili
ama-20 nakabuyelelwa kabili ama-50 nakabuyelelwa kabili ama-70 nakabuyelelwa kabili

Tjela abafundi bangabali ngaku-1. Bafanele basebenzise ubudlelwano abasanda ukukufunda ukutlola masinya ukubuyelela kabili kweenomboro ezikulu.

Nangabe kunabanye abafundi abaqeda imisebenzi le masinya, banikele eminye yokuzijayeza:

uku-3 nakabuyelelwa kabili ubu-8 nabubuyelelwa kabili ihafu yakaku-4 ihafu yobu-8
ama-30 nakabuyelelwa kabili ama-80 nakabuyelelwa kabili ihafu yama-40 ihafu yama-80

UKUBUYELELA KABILI NOKUHAFULA: ISIFUNDO ESITHOMAKO SESI-4

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Ukubuyelela kabili nokuhafula iinomboro zobungani

Iinomboro zobungani ziinomboro okulula khulu ukusebenza ngazo. Kanengi ziba ziimbuyabuyelelo zetjhumu.

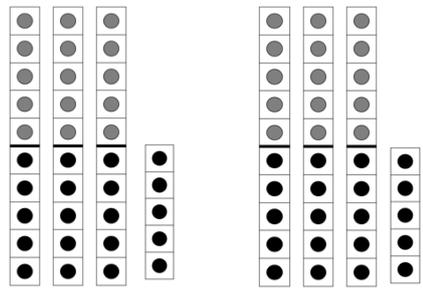
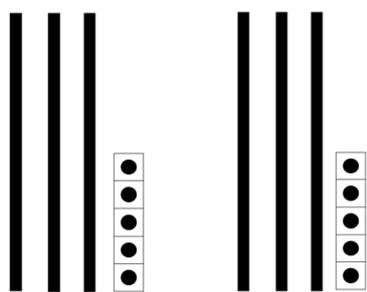
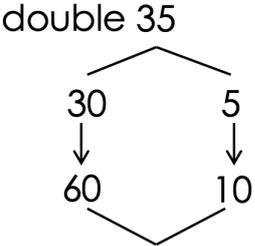
“Ayini ama- ...?/Liyini i- ...?”

Utijhere: 30 nakabuyelelwa kabili →	Abafundi: ma-60	
Utijhere: 10 nalibuyelelwa kabili →	Abafundi: ma-20	
Utijhere: 50 nakabuyelelwa kabili→	Abafundi: li-100	
Utijhere: 40 ahafulwe phakathi →	Abafundi: ma-20	
Utijhere: 50 ahafulwe phakathi →	Abafundi: ma-25	
Utijhere: 100 elihafulwe phakathi→	Abafundi: ma-50	njalo njalo ...

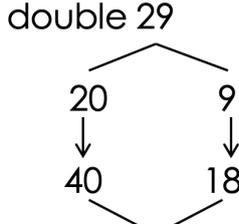
Ukulandelana komsebenzi

Esifundweni lesi sizijayeza iinomboro ezinamadijithi amabili abuyelelwe kabili.

Yelega: Imitletlana enamaqatjhazi atholakala encwadini i- Print Master.

<p>Umraro: ama-35 nakabuyelelwa kabili</p> <p>Sebenzisa imitletlana esi-6 yamaqatjhazi ali-10, begodu nemitletlana emi-2 yamaqatjhazi ama-5, begodu ihlele itjengise ama-35 nakabuyelelwe kabili.</p> <p>Utijhere: Mumutjho wenomboro yiphi obuyelelwe kabili otjengiswe edayagramini?</p> <p>Khumbuza itlasi bonyana umtletlana mu-1 (kungaba maqatjhazi nofana umuda onzima khulu) utjengisa itjhumu li-1.</p> <p>Abafundi: ama-35 nakabuyelelwa kabili (nofana 35 + 35)</p> <p>Utijhere: Singayisebenza bunjani ipendulo?</p> <p>Lalela abafundi abakhuluma ngokubeka amatjhumu ndawonye ukuthola amatjhumu asi-6 nofana ama-60 begodu nokubeka aboku-5 ababili ndawonye ukuthola i-10.</p> <p>Tlola 'indlela yokuphula' le ebhodini njengobana kutjengiswe ebhodini.</p>	<p>ama-35 nakanuyelelwa kabili</p>  <p>NOFANA</p>  <p>double 35</p>  <p>double 35 = 70</p>
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Ukubuyelela kabili nokuhafula phakathi

<p>Umraro: 29×2</p> <p>Buyelela indlela yokuphula ama-29 abuyelelwe kabili njengombana kutjengisiwe. Khumbuza itlasi bonyana ukubuyabuyelela ngaku-2 (nofana $\times 2$) kufana nokubuyelela kabili.</p> <p>Vumela abafundi bakusize ukuzalisa ukubuyelela kabili kwamatjumi nekwamayunithi.</p> <p>Abanye abafundi bangathi 29×2 ma-60 – 2 = 58. Indlela le nayo ifanele yamukelwe.</p>	<p>double 29</p>  <p>double 29 = 58</p>
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Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjisi balinge ukwenza iimbonelo ezilandelako:

ama-41 nakabuyelelwa kabili ama-36 nakabuyelelwa kabili

ama-47 kabili nakabuyelelwa kabili

Abafundi bafanele batlole ukuphula begodu babale ngehloko amatjumi namayunithi abuyelelwa kabili. Umbono lo ngowokusebenzela ekutholeni iimpendulo zemibuzo le ngehloko.

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “ama-47 nakabuyelelwa kabili ma-40 nakabuyelelwa kabili (kwenza ama-80) begodu ne-7 nalibuyelelwa kabili (lenza i-14). Ama-80 ne-14 enza ama-80, 90, 94.”

Tjela abafundi bangabali ngaku-1.

Umsebenzi wekhaya – Iphepha lokusebenzela loku-1

Ekupheleni kwesifundo sanamhlanjisi nikela abafundi IPhepha lokusebenzela woku-1.

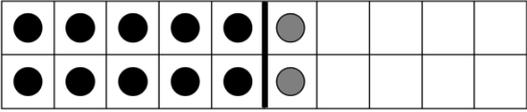
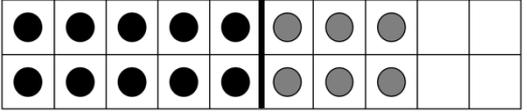
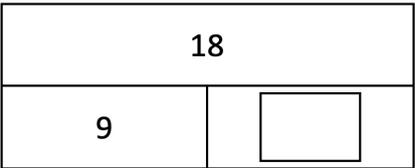
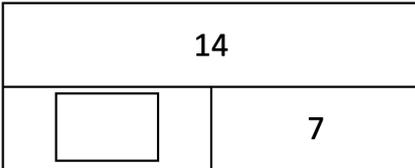
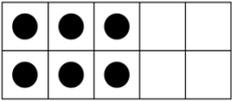
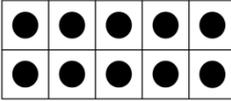
Akuthogeki bonyana wabele abantwana isikhathi nabenza IPhepha lokusebenzela leli. Umnqopho kukunikela abafundi omunye umsebenzi otlololwa ukuzijayeza abawenza ngehloko.

Ividiyo esekelako

Ukubuyelela kabili nokuhafula phakathi kwesi-4



<https://youtu.be/qnSniN-bliU>

Igama:	
Ukubuyelela kabili nokuhafula phakathi: Iphepha lokusebenzela loku-	
<p>I.</p>  <p>$6 + 6 = \square$</p>	<p>II.</p>  <p>$8 + 8 = \square$</p>
<p>2. Ihafu ye-12 = <input type="text"/></p>	<p>12. $11 \times 2 = \square$</p>
<p>3. $9 + 9 = \square$</p>	<p>13. Ihafu ye- <input type="text"/> = 8</p>
<p>4. i-7 nalibuyelelwa kabili = <input type="text"/></p>	<p>14. ama-30 nakabuyelelwa kabili = <input type="text"/></p>
<p>5. <input type="text"/> $\times 2 = 16$</p>	<p>15. ama-50 nakabuyelelwa kabili = <input type="text"/></p>
<p>6.</p> 	<p>16.</p> 
<p>7. i-10 nalibuyelelwa kabili = <input type="text"/></p>	<p>17. Ihafu yama-40 = <input type="text"/></p>
<p>8.</p>  <p>Ihafu yesi-6 = <input type="text"/></p>	<p>18.</p>  <p>Ihafu ye-10 = <input type="text"/></p>
<p>9. $12 \div 2 = \square$</p>	<p>19. Ihafu yama-70 = <input type="text"/></p>
<p>10. Ihafu ye-14 = <input type="text"/></p>	<p>20. $2 \times 70 = \square$</p>

Ukubuyelela kabili nokuhafula phakathi

Amanowuthi katitjhere

Lapha ungenza amanowuthi wesifundo begodu nokobana ngibaphi abafundi abadinga isiza lamaqhinga ahlukehlukeneko. Ungenza amanowuthi wananyana ngiziphi izinto ofuna ukuzilungisa esifundweni esithomako esilandelako.

Ukubuyelela kabili nokuhafula phakathi

Ividiyo esekelako

Ukubuyelela kabili nokuhafula phakathi kwesi-5



<https://youtu.be/t2jBnZHnn1Y>

Ukubuyelela kabili nokuhafula phakathi

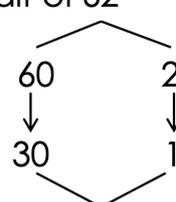
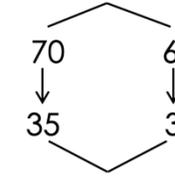
UKUBUYELELA KABILI NOKUHAFULA PHAKATHI: ISIFUNDO ESITHOMAKO 5

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Ukubuyelela kabili nokuhafula phakathi iinomboro zobungani

Ukulandelana komsebenzi

Esifundweni lesi sizijayeza ukuhafula phakathi iinomboro ezinamadijithi amabili.

<p>Umraro: $62 \div 2$</p> <p>Khumbuza itlasi bonyana ukuhlukanisa ngaku-2 ($\div 2$) kufana nokusebenza ngehafu.</p> <p>Utijhere: Singasebenza bunjani ukuthola bonyana iyini ihafu yama-62?</p> <p>Lalela abafundi abakhuluma ngokuhafula phakathi ama-60 ukuthola ama-30 begodu nokuhafula phakathi ku-2 ukuthola ku-1, ukuthola ipendulo ema-31.</p> <p>Tlola indlela 'yokuphula' le njengobana kutjengiswe ebhodini.</p>	<p>half of 62</p>  <p>half of 62 = 31</p>
<p>Umraro: $76 \div 2$</p> <p>Buyelela indlela yokuphula ihafu yama-76 njengobana kutjengisiwe. Khumbuza itlasi bonyana ukuhlukanisa ngaku-2 (nofana $\div 2$) kufana nokuhafula.</p> <p>Vumela abafundi bakusize ukuzalisa amahafu wamatjumi newamayunithi.</p>	<p>half of 76</p>  <p>half of 76 = 38</p>

Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjesi balinge ukwenza iimbonelo ezilandelako:

Ihafu yama-42

$68 \div 2$

$34 \div 2$

Abafundi bafanele batlole ukuphula begodu babale amahafu wamatjumi nemayunithi ngehloko.

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. " $34 \div 2$ ayihafu yama-30 (okuli-15) begodu nehafu yakaku-4 (okunguku-2). I-15 noku-2 kulingana ne-17".

Tjela abafundi bangabali ngaku-1.

Ukubuyelela kabili nokuhafula phakathi

Ividiyo esekelako

Ukubuyelela kabili nokuhafula phakathi kwesi-6



<https://youtu.be/fxDY11LICsc>

Ukubuyelela kabili nokuhafula phakathi

UKUBUYELELA KABILI NOKUHAFULA: ISIFUNDO ESITHOMAKO SESI-6

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Itjho ngenye indlela:

Sebenza ngemifanekiso ehlukehlukeneko yokubuyelela kabili neyokuhafula phakathi. Lokhu kungafaka hlangana amagama afana 'ne-7 nalibuyelelwa kabili' begodu 'nehafu ye-16', nofana ezinye iindlela 'njengeqhema ezimbili ze-7' nofana 'i-7 ne-7' nofana '7 + 7' nofana '16 ÷ 2' nofana itjhumu nesithandathu elabiwa hlangana nababili'.

Lokhu kungafaka hlangana ukunikela umfanekiso ofana nongenzasi:

9	9
18	

Abafundi bafanele banikele iindlela zokutjho nofana zokutlola 'i-9 nalibuyelelwa kabili = 18' isib. $9 + 9 = 18$ $18 - 9 = 9$
abolithoba ababili benza i-18 $9 \times 2 = 18$

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa ukubuyelela kabili nokuhafula phakathi ngeendlela ezinengana.

<p>Umraro: ama-26 nakabuyelelwa kabili</p> <p>Buza abafundi iindlela ezihlukehlukeneko zokutjho abakubona edayagramini le.</p> <p>Isibonelo, ama-26 nakubuyelelwa kabili afana nama-26×2 nofana iinqhema ezimbili zama-26'. Esinye isibonelo ngesithi ama-26 nakabuyelelwa kabili manengi ngaku-2 nawubuyelela ama-25 kabili ngombana isiqhema ngasinye sinokunengi ngaku-1 kiso.</p> <p>Ngezelela nanyana ngiliphi ilwazi elivela ebafundini ngedayagramu le.</p> <p>Abanye abafundi banganikela ukubalisisa kokukhupha $52 - 26 = 26$. Tlola lokhu edayagramini nangabe kunikelwe. Ukuhlobanisa ukuhlanganisa nokukhupha kufundiswa njengeqhinga esedeni yokucina yesifundo esithomako.</p>	
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Imisebenzi yomfundi ngamunye

Abafundi bafanele njenganje bagwale indlwana yesiswebu yamaphuzu, njengenikelwe ngehla:

$$\text{ama-43 nakabuyelelwa kabili} = \text{nama-86}$$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. "Ngiyazi bonyana ama-43 begodu nama-43 alingana nama-86" nofana "ama-43 nakabuyelelwa kabili alingana nama-86, ngokunjalo ngiyazi bonyana ama-430 nakabuyelelwa kabili alingana nama-860.

Nangabe kunabafundi abaqede umsebenzi lo masinya, babawe batlame enye indlwana yesiswebu yamaphuzu anobudlelwano athoma ngananyana ngimaphi amaphuzu wokubuyelela kabili nofana wokuhafula phakathi abazikhethela wona.

Ukubuyelela kabili nokuhafula phakathi

UKUBUYELELA KABILI NOKUHAFULA PHAKATHI: ISIFUNDO ESITHOMAKO SE-7

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Ukubuyelela kabili nokuhafula kweembuyabuyelelo ze-10, 100, 1000

“Liyini i- ...?/Ayini ama- ...”

Utijhere: i-10 nalibuyelelwa kabili	→	Abafundi: ma-20
Utijhere: i-100 nalibuyelelwa kabili	→	Abafundi: ma-200
Utijhere: i-1000 nalibuyelelwa kabili	→	Abafundi: ziin-2000
Utijhere: ama-40 nakahafulwa phakathi	→	Abafundi: ma-20
Utijhere: ama-400 nakahafulwa phakathi	→	Abafundi: 200
Utijhere: iin-4000 nazihafulwa phakathi	→	Abafundi: 2000 njalo njalo ...

Ukulandelana komsebenzi

Esifundweni lesi sizijayeza ukubuyelela kabili nokuhafula phakathi iimbuyabuyelelo ze-10.

<p>Umraro : ama-34 nakabuyelelwa kabili → ama-34 nakabuyelelwa kabili → iin-3400 nazibuyelelwa kabili</p> <p>Utijhere: Singasebenza bunjani ukubona bonyana ama-34 nakabuyelelwa kabili ayini?</p> <p>Lalela abafundi abakhuluma ngama-30 abuyelelwa kabili ukuthola ama-60 begodu noku-4 obuyelelwa kabili ukuthola ubu-8, bese kutholakala ama-68.</p> <p>Nangabe abafundi bayabhalelwa ukubalisisa lokhu ngehloko, tlola indlela 'yokuphula' lokhu njengobana kutjengisiwe.</p> <p>Utijhere: Singasebenzisa ilwazi esinalo lama-34 nakabuyelelwa kabili ukusebenza bonyana azokuba yini ama-340 nakabuyelelwa kabili?</p> <p>Lalela abafundi abathi ama-340 makhulu ngokubuyelelwe nge-10 kunama-34 ngokunjalo ama-340 nakabuyelelwa kabili makhulu ngokubuyelelwe ngetjhumu kunama-68; okuma-680.</p>	<p style="text-align: center;">double 34</p> <p style="text-align: center;">double 34 = 68</p> <p>ama-34 nakabuyelelwa kabili = 68</p> <p>ama-340 nakabuyelelwa kabili = <input type="text"/></p>
<p>Umraro: Ihafu yama-46 → ihafu yama-460</p> <p>Utijhere: Singayisebenza bunjani ihafu yama-46?</p> <p>Lalela abafundi abakhuluma ngokuhafula phakathi ama-40 ukuthola ama-20 nokuhafula phakathi isi-6 ukuthola ku-3, bese kutholakala ama-23.</p> <p>Nangabe abafundi bahluleka ukubalisisa lokhu ngehloko, tlola indlela 'yokuphula' le njengobana kutjengisiwe.</p>	<p style="text-align: center;">half of 46</p> <p style="text-align: center;">half of 46 = 23</p> <p>ihafu yama-46 = 23</p> <p>ihafu yama-460 = <input type="text"/></p>

Ukubuyelela kabili nokuhafula phakathi

<p>Utijhere: Singasebenzisa ilwazi esinalo lokuhafula ama-46 phakathi ukubala bonyana izokuba yini ihafu yama-460?</p> <p>Lalela abafundi abathi ama-460 makhulu ngokubuyabuyelelwe nge-10 kunama-46 ngokunjalo ihafu yama-460 ibuyabuyelelwe nge-10 ema-23 = 230.</p>	
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Imisebenzi yomfundi ngamunye

Abafundi bafanele njenganje bagwale indlwana yeenswebe yamaphuzu njengale engehla:

Ama-45 abuyelelwa kabili
ihafu yama- 76

Ama- 27 abuyelelwa kabili

ihafu yama-82

Ama-450 abuyelelwa kabili
ihafu yama-760

Ama-270 abuyelelwa kabili

ihafu yama-820

Khuthaza abafundi babalisise ukubuyelela kabili/ukuhafula kokuthoma ngehloko nangabe bayakghona begodu basebenzise iphetheni leyo ukuphendula ukubuyelela kabili/ukuhafula okulandelako masinya ngangokukghona kwabo.

Umsebenzi wekhaya – Iphepha lokusebenzela lesi-2

Ekupheleni kwesifundo sanamhlanjesi nikela abafundi iphepha lokusebenzela lesi-2.

Akutlhogeki bonyana wabele abafundi isikhathi sokwenza umsebenzi osephepheni lomsebenzi. Umqopho kukunikela abafundi umsebenzi otlolwako wokuzijayeza abawenza ngehloko.

Ividiyo esekelako

Ukubuyelela kabili nokuhafula phakathi kwe-7



<https://youtu.be/JJUPpmMdaAw>

Igama:	
Ukubuyelela kabili nokuhafula phakathi: Iphepha lokusebenzela lesi-2	
I. ama-32 nakabuyelelwa kabili ma- <input type="text"/>	II. ama-44 nakabuyelelwa kabili ma- <input type="text"/>
2. $26 \times 2 =$ <input type="text"/>	12. $38 \times 2 =$ <input type="text"/>
3. $42 \div 2 =$ <input type="text"/>	13. $86 \div 2 =$ <input type="text"/>
4. Ihafu ye-110 = <input type="text"/>	14. Ihafu ye-104 = <input type="text"/>
5. Ama-23 nakabuyelelwa kabili = <input type="text"/>	15. Ama-39 nakabuyelelwa kabili = <input type="text"/>
6. Ihafu yama-36 = <input type="text"/>	16. Ihafu yama-48 = <input type="text"/>
Ama-31 nakabuyelelwa kabili ma-62	Ama-49 nakabuyelelwa kabili ma-98
7. $2 \times 31 =$ <input type="text"/>	17. $2 \times 49 =$ <input type="text"/>
8. Ihafu yama-62 ma- <input type="text"/>	18. Ihafu yama-98 ma- <input type="text"/>
9. $31 + 32 =$ <input type="text"/>	19. $49 + 48 =$ <input type="text"/>
10. Ama-31 nakabuyelelwa kabili = $30 + 30 +$ <input type="text"/>	20. Ama-49 nakabuyelelwa kabili = $50 + 50 -$ <input type="text"/>

Ukubuyelela kabili nokuhafula phakathi

Amanowuthi katitjhere

Lapha ungatlola amanowuthi ngesifundo nokobana ngibaphi abafundi abasadinga isizo lamaqhinga ahlukahlukene. Ungenza amanowuthi wezinye zezinto ofuna ukuzilungisa esifundweni esithomako esilandelako.

Ukubuyelela kabili nokuhafula phakathi

Ividiyo esekelako

Ukubuyelela kabili nokuhafula phakathi kobu-8



https://youtu.be/_qp_sjlzqLw

Ukubuyelela kabili nokuhafula phakathi

UKUBUYELELA KABILI NOKUHAFULA: ISIFUNDO ESITHOMAKO SOBU-8

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Ukubuyelela kabili nokuhafula phakathi iinomboro zobungani

Ukulandelana komsebenzi

Esifundweni lesi sakha amaphuzu anobudlelwano obuhlobene nephuzu lenomboro ebuyelelwa kabili nofana ehafulwa phakathi enikelweko, ukufaka hlanguka ukubuyelela kabili okuseduze.

<p>Umraro: i-17 nalibuyelelwa kabili</p> <p>Bawa abafundi iindlela ezihlukahlukene zokutjho abakubona edayagramini le.</p> <p>Isibonelo, $17 + 18$ lifanele libe linengi ngaku-1 kune- $17 + 17$.</p> <p>Esinye isibonelo ngesithi i-17 elibuyelelwe kabili linengi ngaku-2 kune-16 elibuyelelwe kabili ngombana isiqhema ngasinye sinokunengi ngaku-1 ngaphezu kiso.</p> <p>Ngezelela nanyana ngimiphi imibono emitjha evela kubafundi malungana nedayagramu.</p> <p>Abanye abafundi banganikela ukubalisisa kokukhupha</p> <p>$34 - 17 = 17$. Tlola lokhu edayagramini nangabe kunikelwe. Ukuhlobanisa ukuhlanganisa nokukhupha kufundiswa njengeqhinga esedeni yokucina yesifundo esithomako.</p>	
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Imisebenzi yomfundi ngamunye

1. Abafundi bafanele njenganje bagwale indlwana yesiswebu yamaphuzu, njengale engehla, ukuhlobanisa:

Ama-38 abuyelelwa kabili = 76

Isibonelo, ' $38 + 38 = 76$ ' nofana 'ihafu yama-76 = 38' nofana 'ihafu yehafu yama-76 = 19'

Abafundi bafanele bahlathulule ukucabanga kwabo, isib." Ikota yama-76 yi-19 ngombana ngihafule begodu ngabuyelela ngahafula godu".

Tjela abafundi bangabali ngaku-1.

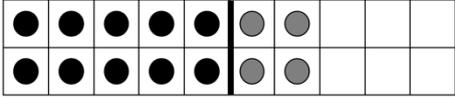
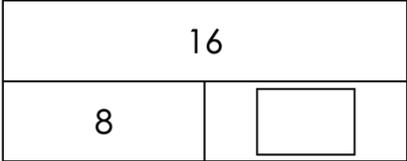
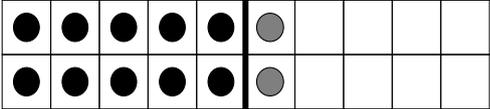
2. Abafundi bafanele bazame ukuphendula imibuzo le:

Ayini ama-99 nakabuyelelwa kabili?

Qedelela umutjho lo: Ama-99 nakabuyelelwa kabili = ne-100 nalibuyelelwa kabili -

Ayini ama-49 nakabuyelelwa kabili?

Nangabe kunabafundi abaqede umsebenzi lo masinya, babawe batlame enye indlwana yesiswebu yamaphuzu ahlanganeko ethoma ngananyana ngimaphi amaphuzu wokubuyelela kabili nofana wokuhafula phakathi abazikhethela wona.

Igama:	
Ukubuyelela kabili nokuhafula: Ngemuva kokuhlolwa	
INGCENYE YOKU-I	Imizuzu emi-2 enzelwe ikhasi leli
<p>i. </p> <p>$7 + 7 = \square$</p>	<p>ii. $14 + 14 = \square$</p>
<p>2. ihafu ye-14 = \square</p>	<p>12. $7 \times 2 = \square$</p>
<p>3. $9 + 9 = \square$</p>	<p>13. ihafu ye-$\square = 7$</p>
<p>4. ubu-8 nabubuyelelwa kabili = \square</p>	<p>14. I-100 nalibuyelelwa kabili = \square</p>
<p>5. $\square \times 2 = 14$</p>	<p>15. Ama-20 nakabuyelelwa kabili = \square</p>
<p>6. </p>	<p>16. ihafu yama-$\square = 40$</p>
<p>7. i-10 nalibuyelelwa kabili = \square</p>	<p>17. ihafu yama-50 = \square</p>
<p>8. </p> <p>ihafu ye-12 = \square</p>	<p>18. $18 \div 2 = \square$</p>
<p>9. $10 \div 2 = \square$</p>	<p>19. ihafu yama-30 = \square</p>
<p>10. ihafu ye-18 = \square</p>	<p>20. $2 \times 60 = \square$</p>
Inani seliloke: 20	

Ukubuyelela kabili nokuhafula phakathi

Ukubuyelela kabili nokuhafula phakathi: Ngemuva kokuhlolwa	
INGCENYE YESI-2	Imizuzu emi-3 yenzelwe ikhasi leli
1.	ama-42 nakabuyelelwa kabili = <input type="text"/>
2.	$36 \times 2 =$ <input type="text"/>
3.	$64 \div 2 =$ <input type="text"/>
4.	ihafu ye-102 = <input type="text"/>
5.	ama-99 nakabuyelelwa kabili = <input type="text"/>
6.	ihafu yama-38 = <input type="text"/>
7.	ihafu ye- <input type="text"/> = 52
ama-39 nakabuyelelwa kabili ma-78	
8.	ihafu yama-78 ima- <input type="text"/>
9.	$39 + 38 =$ <input type="text"/>
10.	ama-39 nakabuyelelwa kabili = $40 + 40 -$ <input type="text"/>
Inani seliloke: 10	

UKUTJHIDEZA ETJHUMINI NOKULUNGISA

Isingeniso

Umnqopho weemfundo ezithomako ezintathu zokuthoma ukuhlanganisa kusetjenziswa iqhinga lokutjhideza inomboro yobungani etjhumini nokulungisa. Eemfundweni ezithomako ezintathu ezilandelako, umnqopho ukukhupha kusetjenziswa iqhinga lokutjhideza etjhumini nokulungisa. Iimfundo ezithomako ezimbili zokugcina zinqophe ekubalisiseni lapho inomboro engaphezu kweyodwa ingatjhidezwa khona enomborweni yobungani. Inomboro zobungani ziinomboro ezilula ukusebenza ngazo. Kanengi kuba ziimbuyabuyelelo zetjhumini. Eminye yemisebenzi irholwa ngutitjhera ebhodini begodu eminye ngeyenziwa mfundi ngokuzijamela. Amakghono wokukhumbula masinya.

KunAmakghono wokukhumbula masinya asithandathu abafundi abafanele ukuwafunda wamaqhinga wokutjhideza etjhumini nokulungisa:

- ukubala uye phambili nofana emuva ngama-10 ukusuka kunanyana ngiyiphi inomboro (isib. 12, 22, 32, nofana 57, 47, 37, ...)
- ukuhlanganisa nofana ukukhupha ku-1, 2 begodu noku-3 ukusuka kunanyana ngiyiphi inomboro enokweyamela nengayameli etjhumini (isib. $49 + 1 = 50$ nofana $30 - 2 = 28$; $49 + 2 = 51$ nofana $52 - 3 = 49$).
- ukuhlanganisa isibuyabuyelelo setjhumini kunanyana ngiyiphi inomboro (isib. $61 + 20 = 81$)
- ukukhupha isibuyabuyelelo setjhumini kunanyana ngiyiphi inomboro (isib. $46 - 30 = 16$)
- ukwazi isibuyabuyelelo setjhumini esiseduze khulu (isib. Ama-47 aseduze khulu nama-50; ama-39 aseduze khulu nama-40)
- ukwazi bonyana ungafinyelela bunjani isibuyabuyelelo se-10 esiseduze (isib. ama-43 akude ngaku-3 ukusuka ema-40; i-19 likude ngaku-1 ukusuka ema-20).

Igama:

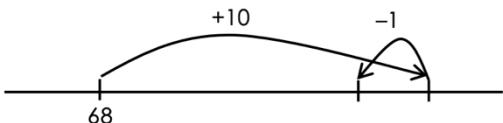
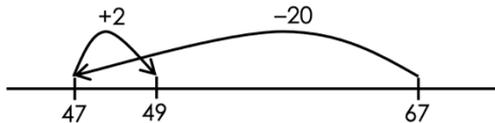
Ukutjhideza etjhumini nokulingisa: Ngaphambi kokuhlolwa

INGCENYE YOKU-I

Imizuzu emi-2 yenzelwe ikhasi leli

1. $23 + 30 = \square$	11. $69 + 2 = \square$
2. $42 - 3 = \square$	12. $68 + 10 = \square$
3. $57 - 10 = \square$	13. $38 + 3 = \square$
4. $51 - 2 = \square$	14. $145 + 30 = \square$
5. $137 - 20 = \square$	15. $97 - 60 = \square$
6. $43 + 40 = \square$	16. $48 = \square - 2$
7. $29 = \square - 1$	17. $49 + \square = 50$
8. $67 + \square = 70$	18. ama-50 nakabuyelelwa kabili = \square
9. $97 = 100 - \square$	19. i-100 nalibuyelelwa kabili = \square
10. $88 + \square = 90$	20. $28 + \square = 30$

Inani seliloke: 20

Ukutjhideza etjhumini nokulinganisa: Ngaphambi kokuhlolwa					
INGCENYE 2	Imizuzu emi-3 yenzelwe ikhasi leli				
1.	$34 + 29 = \square$				
2.	$64 - 19 = \square$				
3.	$27 + 98 = \square$				
4.	$234 - 99 = \square$				
5.	$97 + 98 + 99 = \square$				
6.	 $68 + \square = 68 + 10 - 1$				
7.	 $67 - 18 = 67 - 20 + \square$				
8.	$56 + 28 = 56 + \square - 2$				
9.	$84 - 39 = 84 - \square + 1$				
10.	<p>Zungelezela umut jho wenomboro onikela ipendulo efana nale:</p> <p style="text-align: center;">$80 - 59$</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">$80 + 60 - 1$</td> <td style="text-align: center;">$80 - 60 - 1$</td> </tr> <tr> <td style="text-align: center;">$80 - 60 + 1$</td> <td style="text-align: center;">$80 + 60 + 1$</td> </tr> </table>	$80 + 60 - 1$	$80 - 60 - 1$	$80 - 60 + 1$	$80 + 60 + 1$
$80 + 60 - 1$	$80 - 60 - 1$				
$80 - 60 + 1$	$80 + 60 + 1$				
Inani seliloke: 10					

UKUTJHIDEZA ETJHUMINI NOKULUNGISA: ISIFUNDO ESITHOMAKO SOKU-1

Umzuzu mu-1 wokukhaliphisa umkhumbulo

a. Zombezeza itlasi kanengi nge-10

Utijhere utjho inomboro bese abafundi baphendula ngokudlhegana ngetlasini bangeza nge-10 ngaphezulu kunenomboro yokugcina.

Utijhere: 16

Umfundi woku-1: 26 → Umfundi wesi-2: 36 → Umfundi wesi-3: 46 →

Umfundi wesi-4: 56 njalo njalo ...

b. Ukuhlanganisa iimbuyabuyelelo ze-10

“Ayini ama ...?”

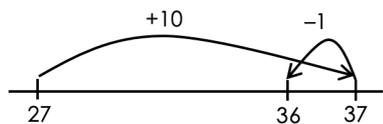
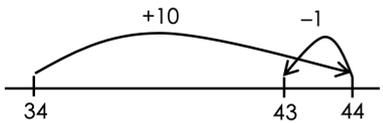
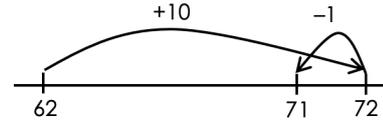
Utijhere: 43 + 20 → Abafundi: 63

Utijhere: 35 + 20 → Abafundi: 55

Utijhere: 42 + 30 → Abafundi: 72 njalo njalo ...

Ukulandelana komsebenzi

Esifundweni lesi sethula iqhinga lokutjhideza etjhumini nokulungisa.

<p>Bawa abafundi bakunikele iimpendulo zemisebenzi esebhodini (ezitlolwe ngesidleni) begodu ubabuza bonyana babona ini.</p> <p>Utijhere: Ngikuphi enikubonako?</p> <p>Abafundi: Ukuhlanganisa i-9 kunikela ipendulo efanako nokuhlanganisa i-10 khupha ku-1</p>	<p>Tlola ebhodini:</p> <p>$27 + 9 =$ $27 + 10 =$</p> <p>$34 + 9 =$ $34 + 10 =$</p> <p>$62 + 9 =$ $62 + 10 =$</p>
<p>Utijhere: Inomboro zobungani ziinomboro ezilula ukusebenza ngazo. Itjumi liyinomboro yobungani. Kuleli iqhinga, nasihlanganisa i-9, sitjhideza inomboro i-9 e-10. Senza lokhu ngombana liseduze ne-10 begodu i-10 liyinomboro yobungane ngokunjalo kulula ukulihlanganisa.</p> <p>Bese sihlanganisa i-10 begodu silungise ipendulo yethu ngokususa ku-1 esikungezileko nasitjhidezako.</p> <p>Tjengisa ama-$27 + 9$; $34 + 9$ begodu nama-$62 + 9$ ngamanambalayini ebhodini.</p> <p>Utijhere: Sibiza iqhinga leli ngokuthi kutjhideza etjhumini nokulungisa.</p> <p>Bawa abafundi bonyana bawatjhele phezulu amagama athi ukutjhideza etjhumini nokulungisa begodu ukhomba amagama asebhodini njengobana bawatjho.</p>	<p>$27 + 9$</p>  <p>$34 + 9$</p>  <p>$62 + 9$</p>  <p>Tlola ebhodini:</p> <p>Ukutjhideza etjhumini nokulungisa</p>

Imisebenzi yomfundi ngamunye

Abafundi bafanele bazame iimbonelo ezilandelako *ngehloko*:

$33 + 9$

$48 + 9$

$76 + 9$

$84 + 9$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “ama- 33 + 9, Ngitjhideza i-9 e-10 bese ngihlanganisa i-10 ema-33 ukuthola ama-43; bese ngilungisa ipendulo ngokukhupha ku-1, ngokunjalo ipendulo ima-42” Njengobana uzabe ubuyelela iindlela zabafundi zokubalisisa, gcizelela lapho abafundi batjhideze khona etjhumini nalapho balungise khona ipendulo.

Ividiyo esekelako

Ukutjhideza eduze netjhumini nokulinganisa koku-1



<https://youtu.be/jpwwwujejpl>

UKUTJHIDEZA ETJHUMINI NOKULUNGISA: ISIFUNDO ESITHOMAKO 2

Umzuzu mu-1 wokukhaliphisa umkhumbulo

a. Pop-Fizz: Isibuyabuyelelo esiseduze kwe-10

Utijhere uthi 'pop' bese abafundi bathl 'fizz'; utijhere utjho inomboro, bese abafundi baphendula ngenye inomboro.

Kilobu ubujamo, abafundi bafanele baphendule ngesibuyabuyelelo setjumi esiseduze.

Utijhere: pop	→	Abafundi: fizz	
Utijhere: 18	→	Abafundi: 20	
Utijhere: pop	→	Abafundi: fizz	
Utijhere: 37	→	Abafundi: 40	
Utijhere: pop	→	Abafundi: fizz	
Utijhere: 42	→	Abafundi: 40	
Utijhere: pop	→	Abafundi: fizz	
Utijhere: 33	→	Abafundi: 30	njalo njalo ...

b. Pop-Fizz: Ungeqela bunjani esibuyabuyelelweni se-10 esiseduze.

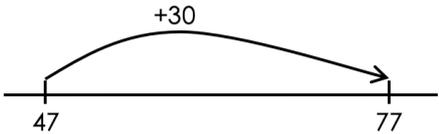
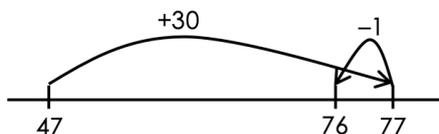
Kileli ihlandla abafundi batjho okufanele kwenzeke ukuthola isibuyabuyelelo setjumi esiseduze.

Utijhere: 7	→	Abafundi: +3	
Utijhere: 28	→	Abafundi: +2	
Utijhere: 19	→	Abafundi: +1	
Utijhere: 43	→	Abafundi: -3	
Utijhere: 32	→	Abafundi: -2	
Utijhere: 11	→	Abafundi: -1	njalo njalo ...

Ukulandelana komsebenzi

Esifundweni lesi sethula iqhinga lokutjhideza etjhumini nokulingisa ukwenzela ukuhlanganisa.

<p>Buza abafundi bonyana bakhumbula ini ngamaqhinga wokubala ngokweqa.</p> <p>Utijhere: Nasisebenzisa iqhinga lokubala ngokweqa, sibalise bunjani ama-47 + 29?</p> <p>Vumela abafundi bahlathulule indlela yokubala bese ubawa umfundi bonyana ayitjengise ebhodini.</p> <p>Khumbuza abafundi amagadango: tshwaya, phula, yeqa begodu ipendulo.</p> <p>Abafundi: Sihlanganisa ama-20 ema-47 ukuthola ama-67, bese sihlanganisa ku-3 ukuthola ama-70, bese sihlanganisa isi-6 (3 + 6 = 9)</p>	<p>Umsebenzi wokugcina webhodini utjengiswe ngenzasi:</p>
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<p>Utijtjhere: Ngiyiphi inomboro yobungani eseduze nama-29? Abafundi: 30</p> <p>Utijtjhere: Nasitjhideza ama-29 ema-30 bese seqa ama-30 ukuya phambili ukusuka ema-47 sizokuba kuphi? Abafundi: 77 (tjengisa lokhu ebhodini)</p> <p>Utijtjhere: Ngabe ama-77 ayipendulo yokugcina nofana sifanele siwalungise? Bawa abafundi bahlathulule umqondo wokulungisa ipendulo: Sihlanganise kunye ngaphezulu, ngokunjalo sifanele sikhuphe kunye ependulweni ukuze sithole ama-76. Tjengisa lokhu ngenambalayinini ebhodini. Tjela abafundi bonyana indlela yokutjhideza etjhumini nokulungisa ipendulo isebenza kuhle nangabe inomboro eyodwa iseduze khulu nenomboro yobungani.</p>	<p>47 + 29</p>  <p>Hlanganisa kunambalayini:</p> 
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Umsebenzi womfundi ngamunye

Abafundi bafanele kwanjisi balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$$26 + 19 \quad 54 + 39$$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “ama- 26 + 19, ngitjhideza i-19 ema-20 begodu ngihlanganisa ama-20 ema-26 ukuthola ama-46; bese ngilungisa ipendulo ngokukhupha ku-1, ngokunjalo ipendulo ima-45.” Njengobana uzabe ubuyelela iindlela zabafundi zokubalisisa, gcizelela lapho abafundi batjhideze etjhumini nalapho balungise khona ipendulo.

Ividiyo esekelako

Ukutjhideza etjhumini nokulinganisa kwesi-2



<https://youtu.be/fGILndzXfSY>

UKUTJHIDEZA ETJHUMINI NOKULUNGISA: ISIFUNDO ESITHOMAKO SESI-3

Umzuzu mu-1 wokukhaliphisa umkhumbulo

a. Pop-Fizz: Seqela njani isibuyabuyelelo se-10 esiseduze?

b. Ukubalisisa masinya: Khupha ku-1, 2 nofana ku-3

“Ayini ama- ...?”

Utijhere: $63 - 1 \rightarrow$ Abafundi: 62

Utijhere: $54 - 2 \rightarrow$ Abafundi: 52

Utijhere: $78 - 1 \rightarrow$ Abafundi: 77

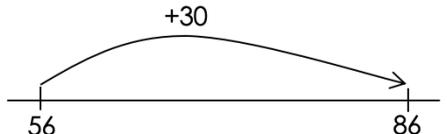
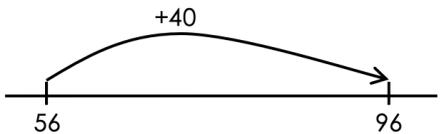
Utijhere: $61 - 2 \rightarrow$ Abafundi: 59

Utijhere: $52 - 3 \rightarrow$ Abafundi 49

njalo njalo ...

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa iqhinga lokutjhideza etjhumini nokulungisa ukwenzela ukhulungisa.

<p>Utijhere: Nasihlanganisa ama-28 nofana ama-38 nofana ama-48 enomborweni, singasebenzisa indlela yokutjhideza etjhumini begodu nekulungisa ipendulo? Singayisebenzisa ukurarulula ama-56 + 28? Ngiyiphi inomboro yobungani eseduze nama-28?</p> <p>Abafundi: 30</p> <p>Utijhere: Nasitjhideza ama-28 ema-30 bese seqe ama-30 ukuya phambili ukusukela ema-56, sizokuba kuphi?</p> <p>Abafundi: 86</p> <p>Utijhere: Siwalungisa bunjani ama-86?</p> <p>Bawa abafundi bahlathulule umqondo wokulungisa ipendulo: Sihlanganise kubili ngaphezuli, ngokunjalo sifanele sikhuphe kubili ependulweni ukuthola ama-84.</p> <p>Tjengisa lokhu enembaliyini ebhodini.</p>	<p>$56 + 28$</p>  <p>Hlanganisa enembaliyini:</p> 
<p>Utijhere: Nasihlanganisa ama-27 nofana ama-37 nofana ama-47 enomborweni, singayisebenzisa indlela yokutjhideza etjhumini nokulungisa? Singayisebenzisela ukurarulula ama-56 + 37? Ngiyiphi inomboro yobungani eseduze nama-37?</p>	<p>$56 + 37$</p> 

<p>Abafundi: ma-40 Utitjhere: Nangabe sitjhideza ama-37 ema-40 bese seqa ukuya phambili ngama-40, sizokuba kuphi? Abafundi: ema-96 Utitjhere: Singawalungisa bunjani ama-96? Bawa abafundi bahlathulule umqondo wokulungisa ipendulo. Sihlanganise kuthathu ngaphezulu, ngokunjalo sifanele sikhuphe kuthathu ependulweni ukuthola ama-93. Tjengisa lokhu ngenambalayinini ebhodini.</p>	<p>Hlanganisa enambalayinini:</p> 
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Imisebenzi yomfundi ngamunye

Abafundi bafanele balinge ukwenza iimbonelo ezilandelako *ngehloko*:

25 + 18 44 + 48 65 + 27

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “ama-25 + 18, ngitjhideza i-18 ema-20 begodu ngihlanganisa ama-20 ema-25 ukuthola ama-45; bese ngilungisa ipendulo ngokukhupha ku-2, ngokunjalo ipendulo ima-43.” Njengobana uzabe ubuyelela iindlela zabafundi zokubalisisa, gcizelela lapho abafundi batjhideze etjhumini begodu nalapho balungise khona ipendulo.

Ividiyo esekelako

UkuThideza etjhumini nokuLungisa kwesi-3



https://youtu.be/St5nSH_BdRE

UKUTJHIDEZA ETJHUMINI NOKULUNGISA: ISIFUNDO ESITHOMAKO SESI-4

Umzuzu mu-1 wokukhaliphisa umkhumbulo

a. Zombeleza itlasi uphungula kancani nge-10

Utijhere utjho inomboro bese abafundi baphendula ngokudlhegana ngetlasini baphungula kancani nge-10 kunenomboro yokugcina.

Utijhere: 128

Umfundi woku-1: 118 → Umfundi wesi-2: 108 → Umfundi wesi-3: 98 → Umfundi wesi-4: 88 njalo njalo.

b. Ukukhupha iimbuyabuyelelo ze-10

“Ayini ama-...?”

Utijhere: 71 – 20 → Abafundi: 51

Utijhere: 59 – 30 → Abafundi: 29 njalo njalo ...

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa iqhinga lokutjhideza etjhumini nokulungisa ipendulo ukwenzela ukukhupha.

<p>Utijhere: Singabuye sisebenzise iqhinga lokutjhideza etjhumini nelokulungisa ipendulo ukwenzela ukukhupha iinomboro eziseduze neenomboro zobungani.</p> <p>Nasihlanganisa ama-27 ne-9, sihlanganisa i-10 bese silungisa ipendulo ngokukhupha kunye. Singenza ama-27 – 9 njengama-27 – 10 begodu silungise ipendulo ngokuhlenganisa ku-1 ngombana sisuse kunye ngaphezulu</p>	<p>$27 - 9 = 27 - 10$ bese uhlenganisa naku-1</p>
<p>Utijhere: Asenze okunye ukubalisisa okunengi ngokusebenzisa ukutjhideza etjhumini nokulungisa ipendulo ukwenzela ukukhupha i-9.</p> <p>ama-34 – 9 afana nama-34 – 10 (tjhideza etjhumini) bese uhlenganisa kunye ubuyele emuva (ulungisa ipendulo).</p> <p>Gwala inambalayini njengobana kutjengisiwe.</p> <p>Utijhere: Ngokunjalo ama- 34 – 9 = 25.</p> <p>Yenza ama-62 – 9 ngendlela efanako njengesinye sesibonelo bese utjengisa inambalayini ebhodini.</p>	<p>$34 - 9$</p> <p>$62 - 9$</p>

Imisebenzi yomfundi ngamunye

Abafundi bafanele balinge ukwenza iimbonelo ezilandelako *ngehloko*:

23 – 9 48 – 9 76 – 9

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “ama-23 – 9, Ngitjhideza i-9 e-10 bese ngikhupha i-10 ema-23 ukuthola i-13; bese ngilungisa ipendulo ngokuhlanganisa ku-1, ngokunjalo ipendulo ili-14” Njengobana ubuyelela iindlela zabafundi zokubalisisa gcizelela lapho batjhideza etjhumini begodu nalapho balungisa khona ipendulo.

Umsebenzi wekhaya: Iphepha lokusebenzela woku-1

Ekugcineni kwesifundo lesi nikela abafundi iphepha lokusebenzela woku-1.

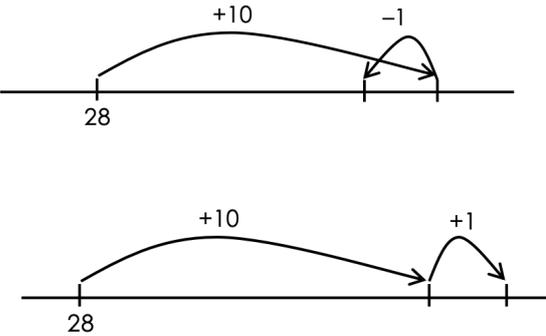
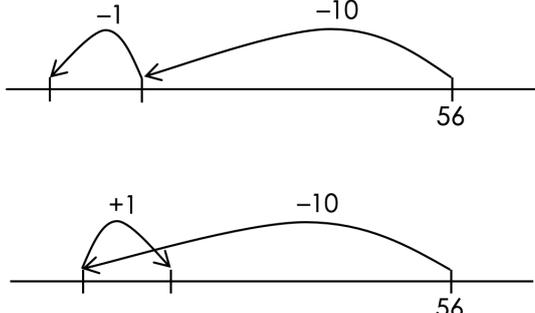
Akutlhogeki bonyana wabele abafundi isikhathi sokwenza umsebenzi osephepheni lomsebenzi. Umnqopho kukunikela abafundi omunye umsebenzi otlolwako wokuzijayeza abawenza ngehloko.

Ividiyo esekelako

Ukutjhideza etjhumini nokulungisa kwesi-4



<https://youtu.be/qyCQU1S6M8w>

Igama:	
Ukutjhideza etjhumini nokulinganisa: Iphepha lokusebenzela loku-1	
1. $46 + 40 = \square$	11. $21 - 3 = \square$
2. $57 - 10 = \square$	12. $28 + 3 = \square$
3. $32 - 3 = \square$	13. $26 + 30 = \square$
4. $71 - 2 = \square$	14. $115 + 50 = \square$
5. $167 - 70 = \square$	15. ama-20 nakabuyelelwa kabili = \square
6. $38 = \square - 2$	16. $19 = \square - 1$
7. $68 + \square = 70$	17. $32 - \square = 30$
8. $99 = 100 - \square$	18. $49 + \square = 50$
9. ama-200 nakabuyelelwa kabili = \square	19. $27 = 30 - \square$
10. Zungelezela inambalayini etjengisa $28 + 9$ 	20. Zungelezela inambalayini etjengisa $56 - 9$ 

Amanowuthi katitjhere

Lapha ungalola amanowuthi ngesifundo nokobana ngibaphi abafundi abasadinga isizo lamaqhinga ahluhlukeneko. Ungenza amanowuthi wezinye zezinto ofuna ukuzilungisa esifundweni esithomako esilandelako.

Ividiyo esekelako

Ukutjhideza etjhumini nokulungisa kwesi-5



https://youtu.be/VQ8va_RuHBQ

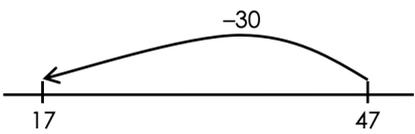
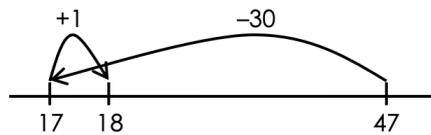
UKUTJHIDEZA ETJHUMINI NOKULUNGISA: ISIFUNDO ESITHOMAKO SESI-5

Umzuzu mu-1 wokukhaliphisa umkhumbulo

- a. Bakhupha kancani ngama-20, ngama-30 ngokulandelana ngetlasini
- b. Pop-Fizz: Isibuyabuyelelo se-10 esiseduze

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa iqhinga lokutjhideza etjhumini nokulungisa ipendulo ukwenzela ukukhupha.

<p>Utijhere: Ungasebenzisa njani iqhinga lokutjhideza etjhumini nokulungisa ipendulo ukurarulula ama-47 – 29?</p> <p>Nangabe abafundi babhalelwa kuhlathulula iqhinga, buza bonyana:</p> <p>Utijhere: Ngiyiphi inomboro yobungani eseduze nama-29?</p> <p>Abafundi: 30</p> <p>Utijhere: Nasitjhideza ama-29 ema-30 bese seqe ama-30 ukuya emuva ukusukela ema-47, Sizokuba kuphi?</p> <p>Abafundi: 17 (tjengisa lokhu ebhodini)</p> <p>Utijhere: Ngabe i-17 liyipendulo yokugcina nofana sifanele siyilungise?</p> <p>Bawa abafundi bahlathulule umqondo wokulungisa ipendulo: Sikhuphe kunye ngaphezulu, ngokunjalo sifanele sihlanganise kunye ependulweni ukuthola i-18.</p> <p>Tjengisa lokhu enambalayinini ebhodini.</p> <p>Tjela abafundi bonyana indlela le isebenza kuhle khulu nangabe inomboro ekhutjhwako iseduze khulu nenomboro yomndeni.</p>	<p style="text-align: center;">$47 - 29$</p>  <p style="text-align: center;">Hlanganisa enambalayinini:</p> 
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Imisebenzi yomfundi ngamunye

Abafundi bafanele balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$28 - 19$ $54 - 39$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “ama-28–19, Ngitjhideza i-19 ema-20 begodu ngikhupha ama-20 ema-28 ukuthola ubu-8; bese ngilungisa ipendulo ngokuhlanganisa ku-1, ngokunjalo ipendulo ili-9” Njengobana ubuyelela iindlela zabafundi zokubalisisa gcizelela lapho batjhideze khona etjhumini begodu nalapho balungise khona ipendulo.

UKUTJHIDEZA ETJHUMINI NOKULUNGISA: ISIFUNDO ESITHOMAKO SESI-6

Umzuzu mu-1 wokukhaliphisa umkhumbulo

a. Pop-Fizz: Seqela bunjani esibuyabuyelelweni se-10 esiseduze (khetha inomboro ezineyunithi ye-7, 8, ne-9, isib. 27 → 30; 58 → 60; 49 → 50)

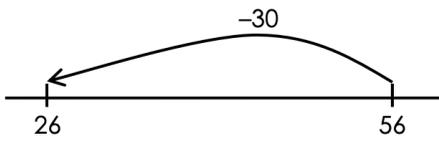
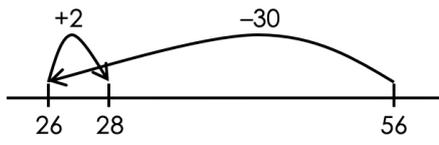
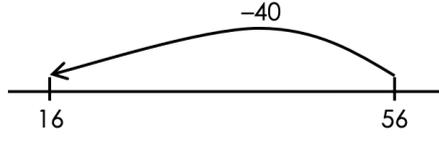
b. Ukubalisisa masinya: Hlanganisa ku-1, 2 nofana ku-3

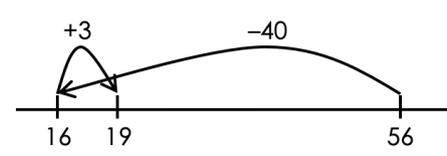
“Ayini ama-...?”

- Utijhere: 61 + 2 → Abafundi: 63
- Utijhere: 52 + 3 → Abafund: 55
- Utijhere: 77 + 1 → Abafund: 78
- Utijhere: 69 + 2 → Abafund: 71
- Utijhere: 58 + 3 → Abafund: 61 njalo njalo ...

Ukulandelana komsebenzi

Esifundweni lesi sethula iqhinga lokutjhideza etjhumini nokulungisa ipendulo ukwenzela ukukhupha.

<p>Utijhere: Nasikhupha ama-28 nofana ama-38 nofana ama-48 enomborweni, singayisebenzisa indlela yokutjhideza etjhumini nokulungisa ipendulo? Singayisebenzisa bunjani ukurarulula ama-56 – 28?</p> <p>Nangabe abafundi babhalelwa kuhlathulula iqhinga leli, babuze bonyana: Utijhere: Ngiyiphi inomboro yobungani eseduze nama-28?</p> <p>Abafundi: 30</p> <p>Utijhere: Nasitjhideza ama-28 ema-30 bese seqe ama-30 ukuya emuva ukusukela ema-56, sizokuba kuphi?</p> <p>Abafundi: 26 (tjengisa lokhu ebhodini)</p> <p>Utijhere: Sifanele siwalungise njani ama-26?</p> <p>Bawa abafundi bahlathulule umqondo wokulungisa ipendulo: Sikhuphe kubili ngaphezulu, ngokunjalo sifanele sihlanganise kubili ependulweni ukuthola ama-28.</p> <p>Tjengisa lokhu ngenambalayini ebhodini.</p>	<p>56 – 28</p>  <p>Hlanganisa enambalayini:</p> 
<p>Utijhere: Nasikhupha ama-27 nofana ama-37 nofana ama-47 enomborweni, singayisebenzisa indlela yokutjhideza etjhumini nokulungisa ipendulo? Singayisebenzisa bunjani ukurarulula ama-56 – 37?</p>	<p>56 – 37</p> 

<p>Nangabe abafundi bayabhalelwa ukuhlathulula iqhinga leli, babuze bonyana: Utitjhere: Ngiyiphi inomboro yobungani eseduze nama-37? Abafundi: 40 Utitjhere: Nasitjhideza ama-37 ema-40 bese seqe ama-40 ukuya emuva ukusukela ema-56, sizokuba kuphi? Abafundi: 16 (tjengisa lokhu ebhodini) Utitjhere: Singalilungisa bunjani i-16? Bawa abafundi bahlathulule umqondo wokulungisa ipendulo: Sikhuphe kuthathu ngaphezulu, ngokunjalo sifanele sihlanganise kuthathu endulweni ukuthola i-19. Tjengisa lokhu enambalayinini ebhodini.</p>	<p>Hlanganisa enambalayinini:</p>  <p>The diagram shows a horizontal number line with three points marked: 16, 19, and 56. An upward-pointing arrow starts at 16 and ends at 19, labeled '+3'. A downward-pointing arrow starts at 19 and ends at 56, labeled '-40'.</p>
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Umsebenzi womfundi ngamunye

Abafundi bafanele balinge ukwenza iimbonelo ezilandelako *ngehloko*:

45 – 18 84 – 48 65 – 27

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “ama-45 – 18, Ngitjhideza i-18 ema-20 bese ngikhupha ama-20 ema-45 ukuthola ama-25; bese ngilungisa ipendulo ngokuhlanganisa ku-2, ngokunjalo ipendulo ima-27.” Njengobana ubuyelela iindlela zabafundi zokubalisisa gcizelela lapho batjhideza khona etjhumini begodu nalapho balungisa khona ipendulo.

Ividiyo esekelako

Ukutjhideza ematjhumini nokulungisa kwesi-6



<https://youtu.be/kg9NCQ9gBPY>

UKUTJHIDEZA ETJHUMINI NOKULUNGISA: ISIFUNDO ESITHOMAKO SE-7

Umzuzu mu-1 wokukhaliphisa umkhumbulo

- a. Pop-Fizz: Isibuyabuyelelo se-10 esiseduze
- b. Pop-Fizz: Seqela njani isibuyabuyelelo se-10 esiseduze

Ukulandelanisa umsebenzi

Esifundweni lesi sisebenzisa iqhinga lokutjhideza etjhumini nokulungisa ipendulo nakubaliswako lapho iinomboro ezingaphezu kweyodwa zitjhidezwa etjhumini.

<p>Utithere: Singasebenzisa iqhinga lokutjhideza etjhumini nokulungisa ipendulo nangabe iinomboro zombili ziseduze neenomboro zobungani, isib. 19 + 39.</p> <p>Tjengisa abafundi indlela yokutjhideza etjhumini nokulungisa ipendulo ebhodini ye-19 + 39.</p> <p>Njengobana utlola ebhodini, hlathulula bonyana:</p> <p>Utithere: Singazitjhideza zombili iinomboro ukuya ema-20 nema-40 bese siyazihlanganisa ukuthola ama-60. Sihlanganise ku-1 kileyo naleyo inomboro begodu ngokunjalo sifanele silungise ipendulo ngokukhupha ku-2 ema-60 ukuthola ama-58.</p> <p><i>Yelega: Nasitjhideza iinomboro zombili etjhumini, sitjengisa lokhu ekubalisiseni okutloliweko kunokobana kugwale enambalayinini.</i></p>	<p>19 + 39 (zitjhideza zombili etjhumini) = 20 + 40 begodu zilungise ngo – 2 (– 1 enomborweni ngayinye) = 60 – 2 = 58</p>
<p>Utithere: Bewungakusebenzisa njani ukutjhideza etjhumini nokulungisa ipendulo yama-28 + 49?</p> <p>Tjengisa abafundi indlela yokutjhideza etjhumini nokulungisa ipendulo ngokubalisisa lokhu ebhodini.</p>	<p>28 + 49 (zitjhideze zombili etjhumini) = 30 + 50 begodu zilungise ngo – 3 (– 2 no – 1) = 80 – 3 = 77</p>
<p>Utithere: Bewungakusebenzisa bunjani ukutjhideza etjhumini nokulungisa ipendulo yama-57 + 59 + 48?</p> <p>Tjengisa abafundi indlela yokutjhideza etjhumini nokulungisa ipendulo ngokubalisisa lokhu ebhodini.</p>	<p>57 + 59 + 48 (zitjhideze zoke etjhumini) = 60 + 60 + 50 begodu zilungise ngokukhupha isi– 6 (– 3, – 1, – 2) = 170 – 6 = 164</p>

Imisebenzi yomfundi ngamunye

Abafundi bafanele balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$$38 + 29 \quad 57 + 28 \quad 19 + 19 + 19$$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “ama-38 + 29, Ngitjhideza ama-38 ema-40 begodu ama-29 ema-30 begodu ngihlanganisa ama-40 nama-30 ukuthola ama-70, bese ngilungisa ipendulo ngokukhupha ku-3, ngokunjalo ipendulo ima-67,” Njengobana ubuyelela iindlela zabafundi zokubalisisa gcizelela lapho batjhideza etjhumini nalapho balungisa khona ipendulo.

Nangabe abafundi bayahluleka ukuhlathulula ukucabanga kwabo, babawe bakutjengise iindlela abazisebenzisileko zokubalisisa ngendlela yokuzitlola (njengobana kutjengisiwe ebhodini).

Umsebenzi wekhaya: Iphepha lokusebenzela lesi-2

Ekugcineni kwesifundo sanamhlanjesi nikela abafundi iphepha lokusebenzela lesi-2.

Akuthogeki bonyana wabele abafundi isikhathi sokwenza umsebenzi osephepheni lokusebenzela. Umnqopho kukunikela abafundi umsebenzi otlolwako wokuzijayeza abawenza ngehloko.

Ividiyo esekelako

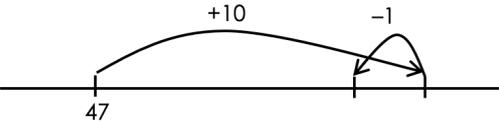
Ukutjhideza etjhumini nokulungisa kwe-7



<https://youtu.be/0TOGmefwNxQ>

Igama:

Ukut jhideza et jhumini nokulungisa: Iphepha lokusebenzela lesi-2

1.	$56 + 29 = \square$				
2.	$54 - 38 = \square$				
3.	$45 + 37 = \square$				
4.	$325 - 99 = \square$				
5.	$47 + 49 + 48 = \square$				
6.	 $47 + \square = 47 + 10 - 1$				
7.	 $77 - 28 = 77 - 30 + \square$				
8.	$66 + 28 = 66 + \square - 2$				
9.	$95 - 39 = 95 - \square + 1$				
10.	<p>Zungelezela umut jho wenomboro onikela ipendulo efanako nale:</p> <p style="text-align: center;">$80 - 39$</p> <table style="width: 100%; border: none;"> <tbody> <tr> <td style="text-align: center;">$80 + 40 - 1$</td> <td style="text-align: center;">$80 + 40 + 1$</td> </tr> <tr> <td style="text-align: center;">$80 - 40 + 1$</td> <td style="text-align: center;">$80 - 40 - 1$</td> </tr> </tbody> </table>	$80 + 40 - 1$	$80 + 40 + 1$	$80 - 40 + 1$	$80 - 40 - 1$
$80 + 40 - 1$	$80 + 40 + 1$				
$80 - 40 + 1$	$80 - 40 - 1$				

Amanowuthi katitjhere

Lapha ungenza amanowuthi ngesifundo begodu nanokuthi ngibaphi abafundi abasadinga isizo lamaqhinga ahlu kahlukeneko. Ungenza amanowuthi wezinye izinto ofuna ukuzenza esifundweni esithomako esilandelako.

UKUTJHIDEZA ETJHUMINI NOKULUNGISA: ISIFUNDO ESITHOMAKO SOBU-8

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Zombelezani ngetlasini kanengi ngama-20 ngaphezulu, nangama-30 ngaphezulu, kancani ngama-30, nangama-40

Ukulandelana komsebenzi

Esifundweni lesi sikhethe iqhinga elihle khulu ukulisebenzisa, begodu sisebenzisa iqhinga lokutjhideza etjhumini nokulungisa ipendulo ekubalisiseni lapho lokhu kulula khona.

<p>Tlola iimbalo ezine ezikhamba ngakubili njengobana kutjengisiwe ebhodini bese ubawe abafundi batjho lokhu:</p> <ul style="list-style-type: none"> • ngisiphi abangasisebenzisela iqhinga lokutjhideza etjhumini nokulungisa ipendulo • ngisiphi abangasisebenzisela iqhinga elihlukileko (njengeqhinga lokubala ngokweqa, ukweyamela etjhumini begodu nokubuyelela kabili) <p>Bawa abafundi bakunikela iinzathu zokukhetha kwabo.</p> <p><i>Yelega: ama-99 + 99 enziwa njenge-100 + 100 – 2 asebenzisa ukutjhideza etjhumini, ukubuyelela kabili (i-100 nalibuyelelwa kabili liba ma-200) begodu nokulungisa ipendulo.</i></p> <p>Coca nabafundi bonyana nasele bazi amaqhinga amanengi, bazokwazi ukukhetha bonyana ngiliphi iqhinga ekumasinya ukulisebenzisa begodu bangawahlanganisa amaqhinga lawo.</p>	<p>38 + 49 22 + 36</p> <p>38 – 13 47 – 29</p> <p>29 + 38 + 39 14 + 24 + 33</p> <p>99 + 99 45 + 45</p>
<p>Bawa abafundi bacoce bonyana bangalisebenzisa njani iqhinga lokutjhideza etjhumini nokulungisa ipendulo ukurarulula lokhu:</p> <p>38 + 49 47 – 29 29 + 38 + 39</p> <p>Abafundi bafanele batjho okufana nalokhu:</p> <ul style="list-style-type: none"> • Sitjhideza ama-38 ema-40 begodu ama-49 ema-50, ukuthola ama-90, begodu silungisa ngokukhupha ku-3 ema-90. • Sitjhideza ama-29 ema-30, sikhuphe ama-30 ema-47 ukuthola i-17, bese silungisa ipendulo ngokuhlenganisa kunye ukuya emuva ukuthola i-18. 	<p>38 + 49 47 – 29 29 + 38 + 39</p>

<ul style="list-style-type: none"> • Sitjhideza ama-29 ema-30 begodu sitjhideza wombili ama-38 nama-39 ema-40, bese sihlanganisa ama-30 nama-40 begodu namanye ama-40 ukuthola 110 bese silungise ipendulo ngokukhupha ku-4 ukuthola i-106. 	
<p>Bawa abafundi baqedelele imitjho le ngomlomo:</p> <ul style="list-style-type: none"> • Ukuhlanganisa i-18 enomborweni, sihlanganisa ____ bese sikhupha ____. • Ukukhupha i-18 enomborweni sikhupha ____ bese sihlanganisa ____. <p>Bawa abafundi bazalise amabhoksi atlolwe ebhodini njengobana kutjengisiwe.</p>	<p>Ukuhlanganisa ama-38 kusinikela ipendulo efanako nale:</p> <p style="text-align: center;">+ <input type="checkbox"/> - <input type="checkbox"/></p> <p>Ukukhupha ama-49 kusinikela ipendulo efanako nale:</p> <p style="text-align: center;">- <input type="checkbox"/> + <input type="checkbox"/></p> <p>Ukuhlanganisa ama-99 kusinikela ipendulo efanako nale:</p> <p style="text-align: center;">+ <input type="checkbox"/> - <input type="checkbox"/></p> <p>Ukukhupha ama-28 kusinikela ipendulo efanako nale:</p> <p style="text-align: center;">- <input type="checkbox"/> + <input type="checkbox"/></p>

Umsebenzi womfundi ngamunye

Abafundi bafanele balinge ukwenza iimbonelo ezilandelako *ngehloko*:

$$29 + 48 \quad 37 - 28 \quad 39 + 28 + 49$$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “ama-29 + 48, ngitjhideza ama-29 ema-30 begodu nama-48 ema-50, begodu ngihlanganisa ama-50 nama-30 ukuthola ama-80, bese ngilungisa ipendulo ngokukhupha ku-3, ngokunjalo ipendulo ima-57.”

Njengobana ubuyelela iindlela zabafundi zokubalisisa gcizelela lapho batjhideza etjhumini begodu nalapho balungisa khona ipendulo.

Nangabe abafundi bayabhalelwa ukuhlathulula umsebenzi wabo, babawe bakutjengise iindlela abazisebenzisileko zokubalisisa ngendlela yokuzitlola (njengobana kutjengisiwe ebhodini).

Ividiyo esekelako

Ukutjhideza etjhumini nokulungisa kobu-8



https://youtu.be/mij_d45rw00

Igama:

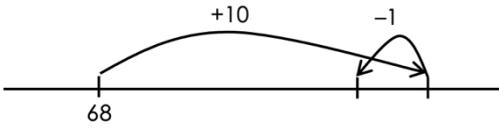
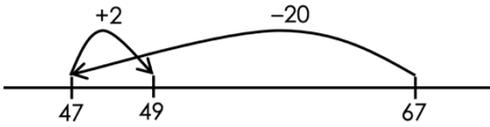
Ukutjhideza etjhumini nokulinganisa: Ngemuva kokuhlolwa

INGCENYE I

Imizuzu emi-2 yenzelwe ikhasi leli

1. $34 + 20 = \square$	11. $29 + 2 = \square$
2. $42 - 3 = \square$	2. $68 + 10 = \square$
3. $57 - 10 = \square$	3. $38 + 3 = \square$
4. $51 - 2 = \square$	4. $145 + 30 = \square$
5. $178 - 30 = \square$	5. $97 - 60 = \square$
6. $43 + 40 = \square$	6. $48 = \square - 2$
7. $29 = \square - 1$	7. $79 + \square = 80$
8. $37 + \square = 40$	8. ama-50 nakabuyelelwa kabili = \square
9. $97 = 100 - \square$	9. i-100 nalibuyelelwa kabili = \square
10. $88 + \square = 90$	20. $28 + \square = 30$

Inali seliloke: 20

Ukutjhideza etjhumini nokulinganisa: Ngemuva kokuhlolwa					
INGCENYE YESI-2	Imizuzu emi-3 yenzelwe ikhasi leli				
1.	$34 + 19 = \square$				
2.	$54 - 29 = \square$				
3.	$27 + 98 = \square$				
4.	$234 - 99 = \square$				
5.	$97 + 98 + 99 = \square$				
6.	 $68 + \square = 68 + 10 - 1$				
7.	 $67 - 18 = 67 - 20 + \square$				
8.	$56 + 28 = 56 + \square - 2$				
9.	$84 - 39 = 84 - \square + 1$				
10.	<p>Zungelezela umutjho wenomboro onikela ipendulo efana nale:</p> <p style="text-align: center;">$60 - 29$</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">$60 - 30 + 1$</td> <td style="text-align: center;">$60 + 30 + 1$</td> </tr> <tr> <td style="text-align: center;">$60 + 30 - 1$</td> <td style="text-align: center;">$60 - 30 - 1$</td> </tr> </table>	$60 - 30 + 1$	$60 + 30 + 1$	$60 + 30 - 1$	$60 - 30 - 1$
$60 - 30 + 1$	$60 + 30 + 1$				
$60 + 30 - 1$	$60 - 30 - 1$				
Inani seliloke: 10					

UKUHLELA KABUTJHA

Isingeniso

Esigabeni lesi iimfundo ezithomako zinqophe ekuhleleni kabutjha begodu neendleleni ezihlukahlukene lapho ukuhlela kabutjha (ukutjhugulula ukuhleleka kweenomboro esibalweni) kungenza ukubalisisa kokuhlanganisa nokokukhupha kube lula ukusebenza ngakho. Kanengi, lokhu kufaka hlangana ukuthola ukuhlanganiswa kweenomboro ezenza iinomboro zobungani zibe lula ukusebenza ngazo. Iinomboro zobungani ziinomboro ezilula ukusebenza ngazo, begodu kanengi zifaka hlangana iimbuyabuyelelo zetjhumu. Eminye yemisebenzi ngerholwa ngutijhere ebhodini begodu eminye ngeyenziwa bafundi ngokuzijamela.

Amakghono wokukhumbula masinya

Kunamakghono amabili wokukhumbula masinya abafundi abafanele bawafunde wamaqhinga wokuhlela kabutjha:

- ukukhumbula ukuhlanganiswa kweenomboro ezihlanganiswako, nofana ezakha ukuya phambili, ukwenza iimbuyabuyelelo ze-10 (isib. si-6 noku-4 nofana ku-3 ne-7, kodwana godu i-16 noku-4 nofana ama-32 ne-18)
- ukukhumbula ukuhlanganiswa kweenomboro ezingabuyabuyelelwa ukwenza iimbuyabuyelelo ze-10 (isib. 2×5 , 5×4).

Igama:					
Ukuhlela kabutjha: Ngaphambi kokuhlolwa					
INGCENYE YOKU-I	Imizuzu emi-2 yenzelwe ikhasi leli				
<p>1. Zungelezela iinomboro ezimbili nazihlanganiswako zenza i-10. 7 4 2 3 9</p>	<p>1. $100 + 14 = \square$</p>				
<p>2. Zungelezela iinomboro ezimbili nazihlanganiswako zenza i-10. 5 4 1 6 8</p>	<p>2. $2 \times 5 = \square$</p>				
<p>3. $6 + \square = 10$</p>	<p>3. Zungelezela iinomboro ezimbili nazihlanganiswako zenza ama-20. 8 14 12 3 19</p>				
<p>4. $9 + 11 = \square$</p>	<p>4. Zungelezela iinomboro ezimbili nazihlanganiswako zenza ama-20. 15 4 1 16 8</p>				
<p>5. Zungelezela iinomboro ezimbili nazihlanganiswako zenza i-100. 24 50 30 38 70</p>	<p>5. $50 \times 2 = \square$</p>				
<p>6. Zungelezela iinomboro ezimbili nazihlanganiswako zenza i-100. 51 17 29 49 60</p>	<p>6. $140 + \square = 149$</p>				
<p>7. $20 = 8 + \square$</p>	<p>7. Zungelezela iinomboro ezimbili nazihlanganiswako zenza ama-30. 18 14 12 7 19</p>				
<p>8. $\square + 3 = 20$</p>	<p>8. Zungelezela iinomboro ezimbili nazihlanganiswako zenza ama-30. 10 14 9 16 13</p>				
<p>9. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td style="padding: 5px;">21</td><td style="padding: 5px;"><input style="width: 40px; height: 20px;" type="text"/></td></tr><tr><td colspan="2" style="padding: 5px; text-align: center;">30</td></tr></table></p>	21	<input style="width: 40px; height: 20px;" type="text"/>	30		<p>9. $\begin{array}{r} + \\ 69 \end{array} \square = 100$</p>
21	<input style="width: 40px; height: 20px;" type="text"/>				
30					
<p>10. $56 + 30 = \square$</p>	<p>20. $22 + 18 = \square$</p>				
Inani seliloke: 20					

Ukuhlela kabutjha: Ngaphambi kokuhlolwa

INGCENYE YESI-2

Imizuzu emi-3 yenzelwe ikhasi leli

1. $6 + 98 = \square$

2. $17 + 48 + 13 = \square$

3. $199 + 98 + 1 + 2 = \square$

4. $37 + 56 + 13 = \square$

5. $38 + 125 + 15 = \square$

6. $2 \times 7 \times 5 = \square$

7. $6 + 98 = 98 + \square$

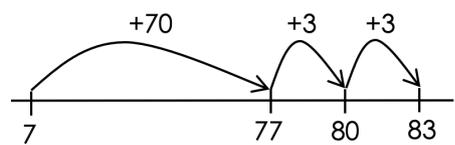
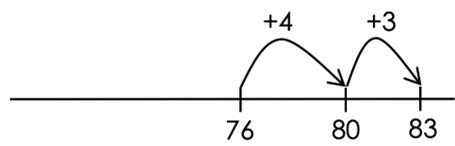
8. $96 + 58 + 4 = 100 + \square$

9. $99 + 97 + 1 + \square = 200$

10. Zungelezela iinomboro ezimbili ezihle khulu bonyana ungazihlanganisa maqangi esedeni le:

37 88 12

Inani seliloke: 10

<p>Bamba isikhwama esikhulu ngesandla esisodwa, begodu nesikhwana esincani ngakesinye isandla.</p>  <p>Utijhere: Nje-ke cabanga nginamaswidi ali-7 esikhwameni lesi (phakamisela phezulu isikhwama esincani) begodu nginamaswidi ama-76 kilesi isikhwama (phakamisela phezulu isikhwama esikhudlwana), ngokunjalo nginamaswidi ali-7 + 76.</p> <p>Phambanisa izandla ngaphambi kokutjho lokhu: Utijhere: Nje-ke nginama-76 + 7, kodwana ngisese nenani elifanako lamaswidi. Ngokunjalo $7 + 76 = 76 + 7$.</p>	<p>Tlola ebhodini: $7 + 76 = 76 + 7$</p>
<p>Utijhere: Kumasinya ukubala $7 + 76$ nofana $76 + 7$ na? Sebenzisa amanambalayini amabili utjengise bonyana i-7 nalihlanganiswa nama-76 kumasinya khulu kunokuhlanganisa ama-76 ne-7 ngombana kunemeqo embadlwana.</p> <p>Gwala amanambalayini amabili ebhodini ukutjengisa lokhu.</p> <p><i>Yelega: Inambalayini itjengisa bonyana uhlanganisa i-7 ngokuhlanganisa ku-4 ema-76 ukuthola ama-80, bese uhlanganisa ku-3. Abanye abafundi bangahlanganisa i-7 khona lokho. Lokhu kulungile. Khumbuza abafundi bonyana bangabali ngakunye.</i></p>	<p>$7 + 76$</p>  <p>$76 + 7$</p> 

Imisebenzi yomfundi ngamunye

Ngikuphi ukubalisisa okungenzasi okufanele kuhleleke kabutjha ngaphambi kokukubala? Abafundi bangasebenzisa inambalayini nanyana imathantlha ukubasiza nangabe bayayithoga.

$5 + 46$ $86 + 6$ $7 + 68$ $84 + 9$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “ $5 + 46$, Ngizihlela kabutjha bonyana zithi $46 + 5$, bese ngihlanganisa ku-4 nama-46 ukuthola ama-50 bese ngihlanganisa ku-1 nama-50 ukuthola ama-51.”

Tjela abafundi bangabali ngaku-1

Ividiyo esekelako

Ukuhlela kabutjha koku-1



<https://youtu.be/FIIM2einnNo>

Ividiyo esekelako

Ukuhlela kabutjha kwesi-2



<https://youtu.be/PdZN9ZWaoDQ>

UKUHLELA KABUTJHA: ISIFUNDO ESITHOMAKO SESI-2

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Ukubalisisa okuhlobanako (isib. $8 + 2 \rightarrow 10$; $18 + 2 \rightarrow 20$; $28 + 2 \rightarrow 30$)

Utijhere utlola isibalo sokuthoma ebhodini:

$8 + 2 = 10$

Utijhere utjela itlasi bonyana bayazi ukuthi ubu-8 nabuhlanganiswa noku-2 kulingana ne-10 bese ubawa ipendulo yokubalisisa okuhlobanako okulandelako. Khomba abafundi abafanele baphendule.

Utijhere: $18 + 2 \rightarrow$ Umfundi woku-1: 20

Utijhere: $28 + 2 \rightarrow$ Umfundi wesi-2: 30

Utijhere: $38 + 2 \rightarrow$ Umfundi wesi- 3: 40 njalo njalo...

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa iqhinga lokuhlela kabutjha.

<p>Umraro: $5 + 47$</p> <p>Utijhere: Ukubalisisa uku-$5 + 47$ singathoma okungasenani kuku-5 bese seqela phambili ngama-47, nofana singathoma ema-47 bese seqela phambili ngaku-5. Ngiyiphi indlela ezokuba masinya?</p> <p>Gwala amanambalayini wazo zombili iindlela lezi ebhodini nakutlhogekako ukutjengisa bonyana ama-$47 + 5$ anemeqo embadlwana.</p>	<p>$5 + 47$</p>						
<p>Utijhere: Njenganje qala iimbalo lezi. Zifake eenqhemeni ezimbili: iimbalo esizozihlela sizibalisise masinya, begodu nalezo ezizokuhlala zinjalo.</p>	<p>Tlola:</p> <table style="width: 100%; text-align: center;"> <tr> <td>$23 + 9$</td> <td>$15 + 47$</td> <td>$8 + 63$</td> </tr> <tr> <td>$68 + 7$</td> <td>$6 + 93$</td> <td>$57 + 26$</td> </tr> </table> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; border-radius: 50%; width: 60px; height: 60px; display: flex; align-items: center; justify-content: center; text-align: center;"> <p>Ukuhlela kabutjha</p> </div> <div style="border: 1px solid black; border-radius: 50%; width: 60px; height: 60px; display: flex; align-items: center; justify-content: center; text-align: center;"> <p>Ungazihleli kabutjha</p> </div> </div>	$23 + 9$	$15 + 47$	$8 + 63$	$68 + 7$	$6 + 93$	$57 + 26$
$23 + 9$	$15 + 47$	$8 + 63$					
$68 + 7$	$6 + 93$	$57 + 26$					

Umsebenzi womfundi ngamunye

Abafundi bafanele njenganje basebenzise imifanekiso yenambalayini ukwenza iimbalo ezilandelako. Abafundi bafanele batlole iimbalo ezihlelwe kabutjha, bagwale inambalayini bese batlola ipendulo:

$8 + 63$ $6 + 97$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. $8 + 63$, Ngizihlela kabutjha zithi ama- $63 + 8$, bese ngihlanganisa i-7 nama-63 ukuthola ama-70 begodu ngihlanganisa uku-1 ukuthola ama-71.”

Tjela abafundi bangabali ngaku-1.

UKUHLELA KABUTJHA: ISIFUNDO ESITHOMAKO SESI-3

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Zombezeza itlasi: Yenza iinomboro zobungani

Utijtjhere utlola imitjho yeenomboro emithathu ehlobanako ebhodini eyenza iinomboro zobungani, isib. $7 + 3 = 10$ $17 + 3 = 20$ $37 + 3 = 40$

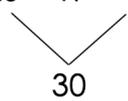
Uzombezeza ngetlasini, bawa abafundi bakunikele eminye imitjho yeenomboro ehlobana nephetheni eyenza iinomboro zobungani le. Rekhoda iimpendulo ebhodini.

Umfundi woku-1: $47 + 3 = 50$ → Umfundi wesi-2: $87 + 3 = 90$ → Umfundi wesi-3:
 $107 + 3 = 110$ → njll.

Abanye abafundi bangathi $17 + 13 = 30$ nofana $37 + 23 = 60$. Nakho lokhu kungarekhodwa.

Ukulandelana komsebenzi

Esifundweni lesi sithola ukuhlanganiswa kweenomboro zobungani okwenza ukubalisisa iinomboro ezintathu kube lula.

<p>Umraro: $26 + 17 + 4$</p> <p>Utijtjhere: Singenza ukubalisisa lokhu ngalindlela, kodwana ngibona ukuhlanganiseka kweenomboro zobungani emutjhwani weenomboro. Kukuphi ukuhlanganiseka kweenomboro zobungani?</p> <p>Abafundi: $26 + 4 = 30$</p> <p>Utijtjhere: ama-30 ayinomboro yobungani. Nje-ke ayini ama-30 + 17?</p> <p>Abafundi: ma-47</p> <p>Khuthaza abafundi bonyana basebenzise amaqhinga wokubala ngokweqa wehloko ukubalisisa ipendulo le. Khumbuza abafundi bangabali ngaku-1.</p>	<p>$26 + 17 + 4$</p> <p style="text-align: center;"> $26 + 17 + 4$  30 </p> <p>$26 + 17 + 4 = 30 + 17$ $= 47$</p>
<p>Umraro: $69 + 47 + 3$</p> <p>Utijtjhere: Thola ukuhlanganiswa 'kobungani' kilokhu ukubalisisa.</p> <p>Abafundi: $47 + 3 = 50$</p> <p>Utijtjhere: ama-50 ayinomboro yobungani. Nje-ke ayini ama- 69 + 50?</p> <p>Abafundi: li-119</p> <p>Khuthaza abafundi bonyana basebenzise amaqhinga wokubala ngokweqa wehloko ukubalisisa ipendulo yama-69 + 50. Khumbuza abafundi bangabali ngaku-1.</p>	<p>$69 + 47 + 3$</p> <p style="text-align: center;"> $69 + 47 + 3$  50 </p> <p>$69 + 47 + 3 = 69 + 50$ $= 119$</p>

Imisebenzi yomfundi ngamunye

Abafundi bafanele njenganje balinge ukwenza iimbonelo ezilandelako ngokuthola iinomboro zobungani ezihlangukano maqangi bese babalisisa ipendulo:

$$25 + 18 + 5$$

$$44 + 38 + 12$$

$$3 + 65 + 27$$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. $25 + 18 + 5$, Ngithoma ngokuhlangukano ku-5 ema-25 ukuthola ama-30, bese ngihlangukano i-18 ema-30 ukuthola ama-48.”

Tjela abafundi bangabali ngku-1.

Ividiyo esekelako

Ukuhlela kabutjha kwesi-3



<https://youtu.be/SdnTj8PZX-o>

Ividiyo esekelako

Ukuhlela kabutjha kwesi-4



https://youtu.be/F_1UiS4QAQ4

UKUHLELA KABUTJHA: ISIFUNDO ESITHOMAKO SESI-4**Umzuzu mu-1 wokukhaliphisa umkhumbulo**

Ngithi/Wena uthi: Yenza ama-30/Yenza ama-50

Ukulandelana komsebenzi

Esifundweni lesi sizijayeza ukuthola iinomboro zobungani ezihlanganiswako ngaphakathi ekubalisiseni.

<p>Umraro: $15 + 47 + 5$</p> <p>Utithere: Namhlanje sizokuqala iinomboro zobungani ezihlanganiswako. Ikhona inomboro yobungani ehlanganiswako nakubaliswako ebhodini na?</p> <p>Abafundi: Iye, $15 + 5 = 20$.</p> <p>Utithere: ama-20 + 47 = nani?</p> <p>Abafundi: 67</p>	$\begin{array}{r} 15 + 47 + 5 \\ \swarrow \quad \searrow \\ 20 \\ 15 + 47 + 5 = 20 + 47 \\ = 67 \end{array}$
<p>Umraro: $38 + 27 + 12$</p> <p>Utithere: Thola inomboro yobungani ehlanganiswako.</p> <p>Abafundi: $38 + 12 = 50$.</p> <p>Utithere: ama-50 + 27 = nani?</p> <p>Abafundi: nama-77</p>	$\begin{array}{r} 38 + 27 + 12 \\ \swarrow \quad \searrow \\ 50 \\ 38 + 27 + 12 = 50 + 27 \\ = 77 \end{array}$
<p>Utithere: Ngiziphi iinomboro ezingena ngebhoksini ezenza inomboro yobungani ehlanganiswako?</p> <p>Abafundi bafanele banikele iinomboro ezigcina ngoku-2 ukuzihlanganisa nama-38 ukwenza inomboro yobungani, isib. 2,32,82, njll. Bangabuya godu banikele iinomboro ezigcina ngoku-3 bazihlanganise nama-27 ukwenza inomboro yobungani, isib. 3, 13, 53, njll.</p>	$38 + 27 + \square$ $38 + 27 + \boxed{32} \quad 38 + 27 + \boxed{13}$ $38 + 27 + \boxed{2} \quad 38 + 27 + \boxed{53}$

Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjisi batlole iinomboro ezihlanu ezihlukileko ezingafakwa ebhoksini ngalinye ukwenza inomboro yobungani ehlanganisweko.

$$24 + 49 + \square \quad 33 + \square + 29$$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. "24 + 49, Ngingatlola inomboro egcina ngoku-1 ngiyihlanganise nama-49 nofana ngingatlola inomboro egcina ngesi-6 ngiyihlanganise nama-24."

Umsebenzi wekhaya: Iphepha lokusebenzela loku-1

Ekupheleni kwesifundo sanamhlanjesi nikela abafundi IPhepha lokusebenzela loku-1.

Akutlhogeki bonyana wabele abantwana isikhathi nabenza IPhepha lokusebenzela leli. Umqopho kukunikela abafundi umsebenzi othileko otlolwako wokuzijayeza abawenza ngehloko.

Igama:					
Ukuhlela kabutjha: Iphepha lokusebenzela loku-					
<p>Zungelezela iinomboro ezimbili nazihlanganiswako zenza i-10.</p> <p>1. 8 6 2 7 5</p>	<p>11. $100 + 57 = \square$</p>				
<p>Zungelezela iinomboro ezimbili nazihlanganiswako zenza i-10</p> <p>2. 7 5 4 6 9</p>	<p>12. $2 \times 6 = \square$</p>				
<p>3. $8 + \square = 10$</p>	<p>13. Zungelezela iinomboro ezimbili nazihlanganiswako zenza ama-30.</p> <p>9 16 21 7 12</p>				
<p>4. $7 + 13 = \square$</p>	<p>14. Zungelezela iinomboro ezimbili nazihlanganiswako zenza ama-30.</p> <p>17 5 13 8 12</p>				
<p>5. Zungelezela iinomboro ezimbili nazihlanganiswako zenza i-100.</p> <p>36 59 64 45 73</p>	<p>15. $60 \times 2 = \square$</p>				
<p>6. Zungelezela iinomboro ezimbili nazihlanganiswako zenza i-100.</p> <p>45 87 37 55 62</p>	<p>16. $120 + \square = 128$</p>				
<p>7. $20 = 8 + \square$</p>	<p>17. Zungelezela iinomboro ezimbili nazihlanganiswako zenza ama-20.</p> <p>11 14 6 7 19</p>				
<p>8. $\square + 6 = 20$</p>	<p>18. Zungelezela iinomboro ezimbili nazihlanganiswako zenza ama-20.</p> <p>15 12 8 4 11</p>				
<p>9. <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="padding: 5px;">34</td> <td style="padding: 5px;"><input style="width: 40px; height: 20px;" type="text"/></td> </tr> <tr> <td colspan="2" style="padding: 5px; text-align: center;">40</td> </tr> </table></p>	34	<input style="width: 40px; height: 20px;" type="text"/>	40		<p>19. $\begin{array}{r} + \\ 87 \\ \hline \end{array}$</p> <p>$87 + \square = 100$</p>
34	<input style="width: 40px; height: 20px;" type="text"/>				
40					
<p>10. $26 + 12 = \square$</p>	<p>20. $24 + 16 = \square$</p>				

Amanowuthi katitjhere

Lapha ungatlole amanowuthi ngesifundo begodu nokuthola bonyana ngibaphi abafundi abasathoga isizo lamaqhinga ahlukahlukene. Ungenza amanowuthi wananyana ngiziphi izinto ofuna ukuzilungisa esifundweni esithomako esilandelako.

Ividiyo esekeleko

Ukuhlela kabutjha kwesi-5



<https://youtu.be/dz79xkmVQy8>

UKUHLELA KABUTJHA: ISIFUNDO ESITHOMAKO SESI-5

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Thola inomboro yobungani ehlanganiswako

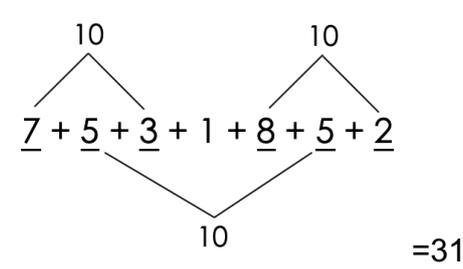
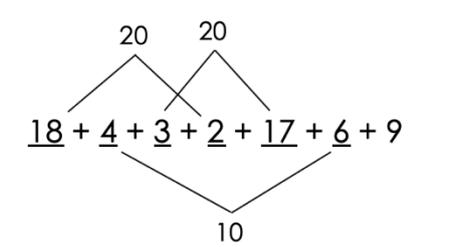
Utijhere utlola ebhodini:

23 2 8 25 36 17 21 19 44

Utijhere utjho nanyana ngiyiphi inomboro, isib. 13, bese abafundi bakhetha inomboro eyodwa enomborweni ezisebhodini ezokwenza inomboro yobungani nayihlanganiswa nenomboro leyo, isib. 17 lingahlanganiswa ne-13 lenza inomboro yobungani yama-30.

Ukulandelana komsebenzi

Esifundweni lesi sithola inomboro yobungani ehlanganisweko nakuhlanganiswa iinomboro ezinengi.

<p>Umraro: $7 + 5 + 3 + 1 + 8 + 5 + 2$</p> <p>Utijhere: Thola inomboro yobungani ehlanganiswako.</p> <p>Abafundi: $7 + 3 = 10$; $5 + 5 = 10$; $8 + 2 = 10$</p> <p>Tshwaya okuhlanganiswako lokhu ebhodini njengobana abafundi bakutjho</p> <p>Utijhere: $7 + 5 + 3 + 1 + 8 + 5 + 2$ li-$10 + 10 + 10 + 1$ okwenza ama-31.</p>	<p>$7 + 5 + 3 + 1 + 8 + 5 + 2$</p>  <p style="text-align: right;">=31</p>
<p>Umraro: $18 + 4 + 3 + 2 + 17 + 6 + 9$</p> <p>Utijhere: Thola inomboro yobungani ehlanganiswako.</p> <p>Abafundi: $18 + 2 = 20$; $4 + 6 = 10$; $3 + 17 = 20$</p> <p>Tshwaya okuhlanganiswako lokhu ebhodini njengobana abafundi bakutjho</p> <p>Utijhere: $18 + 4 + 3 + 2 + 17 + 6 + 9$ ma-$20 + 20 + 10 + 9$ okwenza ama-59</p>	<p>$18 + 4 + 3 + 2 + 17 + 6 + 9$</p> 

Imisebenzi yomfundi ngamunye

Abafundi bafanele njenganje balinge ukwenza iimbonelo ezilandelako *ngehloko* ngokuthola inomboro yobungani ehlanganiswako.

$6 + 3 + 2 + 4 + 9 + 8$ $27 + 32 + 16 + 3 + 8$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “Esibonelweni sokuthoma ngihlanganise isi-6 noku-4 ukuthola i-10, begodu ngihlanganisa uku-2 nobu-8 ukuthola i-10, begodu ngihlanganisa uku-3 ne-9 ukuthola i-12, begodu i-10 nalihlanganiswa ne-10 lihlanganiswa ne-12 lenza nama-32.”

Tjela abafundi bangabali ngaku-1.

UKUHLELA KABUTJHA: ISIFUNDO ESITHOMAKO SESI-6

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Pop-Fizz: Buyabuyelela ngaku-5

Utijhere uthi 'pop' bese abafundi bathi 'fizz'; begodu utijhere utjho inomboro, bese abafundi baphendula ngenomboro leyo ibuyabuyelelwe ka-5.

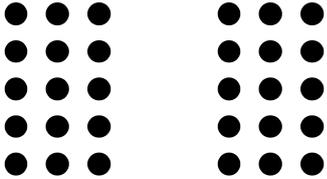
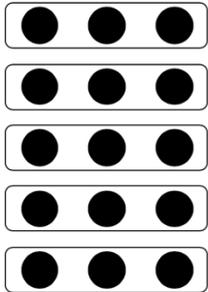
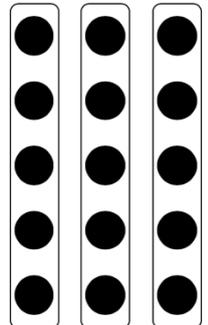
- Utijhere: pop → Abafundi: fizz
- Utijhere: 2 → Abafundi: 10
- Utijhere: pop → Abafundi: fizz
- Utijhere: 3 → Abafundi: 15
- Utijhere: pop → Abafundi: fizz
- Utijhere: 8 → Abafundi: 40
- Utijhere: pop → Abafundi: fizz
- Utijhere: 9 → Abafundi: 45 njalo njalo ...

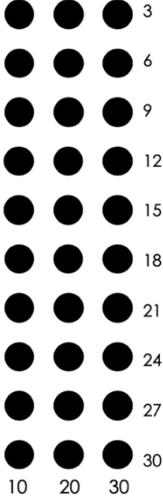
Umdlalo lo ungadlalelwa ukuzijayeza nanyana ngiliphi ithebula lokubuyabuyelela. Utijhere ufanele ahlathululele abafundi nakuthoma umdlalo bonyana ngiyiphi inomboro abafanele bayibuyabuyelele.

Ukulandelana komsebenzi

Esifundweni lesi sethula ukuhlela kabutjha kokubuyabuyelela.

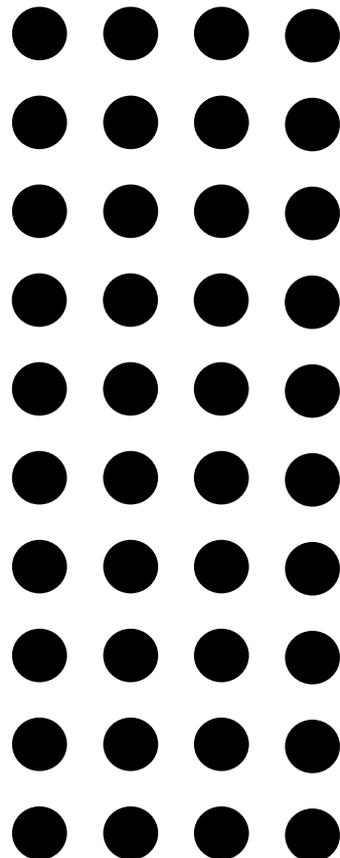
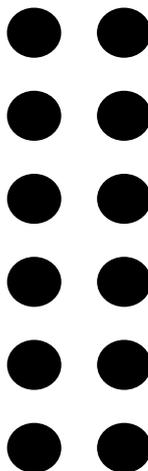
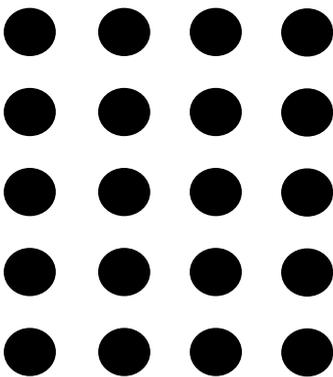
Yeleta: Amarhemo wamaqatjhazi namakholomu akhona encwadini i-Print Master.

<p>Namathisela iinquntu ezimbili zamaphepha anamarhemo ama-5 anamaqatjhazi ama-3 ebhodini. Benze abafundi bavumelane bonyana iinquntu lezi ziyafana.</p> <div style="display: flex; justify-content: space-around; align-items: center;">  </div> <p>Ngokusebenzisa isiquntu sephepha lokuthoma, khomba bonyana sinamakholomu ama-5 anamaqatjhazi ama-3 ngokuzungelezela irhemo ngalinye, begodu utlole 5 x 3 ebhodini.</p> <p>Utijhere: Nasele awoke siyabona bonyana ma- 3, 6, 9, 12, 15. (khomba irhemo ngalinye njengobana ubala)</p> <p>Ngokusebenzisa isiquntu sesibili sephepha elino-5 okubuyabuyelelwe ka-3, khomba bonyana sinamarhemo ama-3 anamaqatjhazi ama-5 ngokuzungelezela irhemo ngalinye, begodu utlole 5 x 3 ebhodini.</p> <p>Utijhere: Nasele awoke siyabona bonyana ma-5, 10, 15</p>	<div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;">5 x 3</div> </div> <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin-left: 20px;">3 x 5</div> </div> <p style="text-align: center;">$5 \times 3 = 3 \times 5$</p>
---	---

<p>(khomba ikholomu ngayinye njengobana ubala). Ngokunjalo sibona $5 \times 3 = 3 \times 5$. Njengobana senzile nakuhlanganiswako, singatjhugulula ukuhleleka kokubuyabuyelela.</p>	
<p>Namathisela isiquntu sephepha esinamarhemo ali-10 anamaqatjhazi ama-3.</p> <p>Utijhere: Asibaleni bonyana mangaki amaqatjhazi alapha sele awoke (ukhombe amarhemo).</p> <p>Abafundi: 3, 6, 9, 12, 15, 18, 21, 24, 27, 30.</p> <p>Utijhere: Asitjintje ukuhleleka kwawo bese sibala ngalindlela (ukhombe amakholomu)</p> <p>Abafundi: 10, 20, 30</p> <p>Utijhere: Bekulula ukubala koke lokhu na (ukubala ngesibuyabuyelelo sakaku-3) nofana ukubala ngesibuyabuyelelo se-10)</p> <p>Abafundi bafanele bavumelane bonyana bekulula begodu kumasinye ukubala nge-10, 20, 30.</p>	

Umsebenzi womfundi ngamunye

Abafundi bafanele kwanjesi batlole iimbalo zokubuyabuyelela okubili okungenziwa ukubala inani lamaqatjhazi akuleso naleso isithombe esingenzasi. Abafundi bafanele bakhethe bonyana ngikuphi ukubalisisa okube bulula bonyana bakwenze. Iinquntwezi zamaphepha anamaqatjhazi angencwadini i-Print Master begodu zingasetjenziswa ebhodini.



Ividiyo esekelako

Ukuhlela kabutjha kwesi-6



<https://youtu.be/cCVo9O9ibaE>

Ividiyo esekelako

Ukuhlela kabutjha kwe-7



<https://youtu.be/ZMaAhLcdAQo>

UKUHLELA KABUTJHA: ISIFUNDO ESITHOMAKO SE-7**Umzuzu mu-1 wokukhaliphisa umkhumbulo**

Pop-Fizz: Buyabuyelela nge-10

Ukulandelana komsebenzi

Esifundweni lesi sithola inomboro yobungani ehlanganisweko ngaphakathi kwesibalo sokubuyabuyelelwa kweenomboro ezintathu.

<p>Umraro: $2 \times 7 \times 5$</p> <p>Utijtjhere: Besingenza ukubalisisa lokhu ngelindlela, kodwana ngibona kwenomboro yobungani ehlanganisweko. Ngiyiphi inomboro yobungani ehlanganiswako?</p> <p>Abafundi: $2 \times 5 = 10$</p> <p>Utijtjhere: i-10 liyinomboro yobungani. Asisebenziseni lona ukwenza ukubalisisa.</p> <p>Tlola $2 \times 7 \times 5 = 2 \times 5 \times 7$ ebhodini.</p> <p>Utijtjhere: Siyazi bonyana $2 \times 5 = 10$. Liyini i-10 x 7?</p> <p>Lalela abafundi abazi ipendulo le, nofana ababala ngokweqa ngama-10. Khumbuza abafundi bangabali ngaku-1.</p> <p>Abafundi: 70</p>	$\begin{array}{c} 2 \times 7 \times 5 \\ \swarrow \quad \searrow \\ 10 \end{array}$ $2 \times 7 \times 5 = 10 \times 7$ $= 70$
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Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjesi basebenzise inomboro yobungani ehlanganisweko nabaphendula imiraro elandelako:

$$2 \times 6 \times 5 \quad 5 \times 8 \times 2 \quad 9 \times 2 \times 5$$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “ $2 \times 6 \times 5$, Ngiyazi bonyana ku-2 nakubuyabuyelelwa ka-5 kwenza itjumi, begodu i-10 elibuyabuyelelwa kasi-6 lenza ama-60, ngokunjalo ipendulo ima-60.”

Yeleva: Abafundi bangeza nezinye iindlela zokwenza lokhu masinya. Isibonelo, umfundi angenza $2 \times 6 \times 5$ ngokuthi $6 \times 5 = 30$ begodu ama-30 nakubuyabuyelelwa kabili enza ama-60. Le ngenye yendlela engasetjenziswa yokubalisisa.

Umsebenzi wekhaya: Iphepha lokusebenzela lesi-2

Ekupheleni kwesifundo sanamhlanjesi nikela abafundi IPhepha lokusebenzela lesi-2. Akutlhogeki bonyana wabele abafundi isikhathi sokwenza IPhepha lokusebenzela lo. Umngqopho kukunikela abafundi umsebenzi wokutlolela ukuzijayeza abawenza ngehloko.

Igama:

Ukuhlela kabutjha: Iphepha lokusebenzela lesi-2

1. $8 + 94 = \square$

2. $11 + 27 + 19 = \square$

3. $99 + 198 + 2 + 1 = \square$

4. $48 + 23 + 12 = \square$

5. $56 + 115 + 25 = \square$

6. $2 \times 9 \times 5 = \square$

7. $3 \times 10 = 10 \times \square$

8. $9 + 93 = 93 + \square$

9. $91 + 37 + 9 = 100 + \square$

10. $99 + 96 + 1 + \square = 200$

11. Zungelezela iinomboro ezimbili ezihle khulu ukuzihlanganisa maqangi esedeni le:

74 26 83

12. Zungelezela iinomboro ezimbili ezihle khulu ukuzibuyabuyelela maqangi esedeni le:

2 38 5

Amanowuthi katitjhere

Lapha ungatlole amanowuthi ngesifundo begodu nokuthola bonyana ngibaphi abafundi abasathoga isizo lamaqhinga ahlukahlukene. Ungenza amanowuthi wezinye izinto ofuna ukuzilungisa esifundweni esithomako esilandelako.

Ividiyo esekelako

Ukuhlela kabutjha kobu-8



<https://youtu.be/Sh0e84cPf2U>

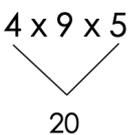
UKUHLELA KABUTJHA: ISIFUNDO ESITHOMAKO SOBU-8

Pop-Fizz: Buyabuyelela ngaku-5

Pop-Fizz: Buyabuyelela nge-10

Ukulandelana komsebenzi

Esifundweni lesi sithola ukuhlangana kwenomboro yobungani ngaphakathi kwesibalo sokubuyabuyelela.

<p>Umraro: $4 \times 9 \times 5$</p> <p>Utijhere: Besingabalisisa lokhu ngalindlela, kodwana ngiyabona bonyana kunenomboro yobungani ehlanganisiweko. Ngiyiphi inomboro yobungani ehlanganisiweko?</p> <p>Abafundi: $4 \times 5 = 20$</p> <p>Utijhere: Ama-20 ayinomboro yobungani. Asiyisebenziseni ukuhlela kabutjha ukubalisisa lokhu.</p> <p>Tlola $4 \times 9 \times 5 = 4 \times 5 \times 9$ ebhodini.</p> <p>Utijhere: Singahlela kabutjha bese siyitlola bunje $4 \times 5 \times 9$. Siyazi bonyana $4 \times 5 = 20$. Asibaleni 20×9 ngokubala ngama-20.</p> <p>Abafundi: 20, 40, 60, 80, 100, 120, 140, 160, 180.</p>	<p>$4 \times 9 \times 5$</p>  <p>20</p> <p>$4 \times 9 \times 5 = 4 \times 5 \times 9$</p> <p>$= 20 \times 9$</p> <p>$= 180$</p>
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Umsebenzi womfundi ngamunye

Abafundi bafanele kwanjesi basebenzise inomboro yobungani ehlanganisiweko ukuhlela kabutjha nabaphendula imiraro elandelako:

$$4 \times 3 \times 5 \quad 4 \times 6 \times 5 \quad 5 \times 7 \times 4$$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib. “ $4 \times 3 \times 5$, Ngiyazi bonyana ku-4 nakubuyabuyelelwa ka-5 kwenza amatjumi amabili, begodu ama-20 nakubuyabuyelelwa ka-3 enza ama-60, ngokunjalo ipendulo ima-60.”

Yeleva: Abafundi bangeza nezinye iindlela zokwenza lokhu masinya. Isibonelo, umfundi angenza $4 \times 3 \times 5$ ngokuthi $4 \times 3 = 12$ begodu $12 \times 5 = 60$. Le ngenye yendlela engasetjenziswa yokubalisisa.

Igama:					
Ukuhlela kabutjha: Ngemuva kokuhlolwa					
INGCENYE YOKU-I	Imizuzu emi-2 yenzelwe ikhasi leli				
<p>Zungelezela iinomboro ezimbili nazihlanganiswako zenza i-10.</p> <p>1. 7 4 2 3 9</p>	<p>1. $100 + 32 = \square$</p>				
<p>Zungelezela iinomboro ezimbili nazihlanganiswako zenza i-10.</p> <p>2. 5 4 1 6 8</p>	<p>2. $2 \times 5 = \square$</p>				
<p>3. $7 + \square = 10$</p>	<p>3. Zungelezela iinomboro ezimbili nazihlanganiswako zenza ama-20.</p> <p>8 14 12 3 19</p>				
<p>4. $9 + 11 = \square$</p>	<p>4. Zungelezela iinomboro ezimbili nazihlanganiswako zenza ama-20.</p> <p>15 4 1 16 8</p>				
<p>5. Zungelezela iinomboro ezimbili nazihlanganiswako zenza i-100.</p> <p>24 50 30 38 70</p>	<p>5. $50 \times 2 = \square$</p>				
<p>6. Zungelezela iinomboro ezimbili nazihlanganiswako zenza i-100.</p> <p>1 17 29 49 60</p>	<p>6. $140 + \square = 149$</p>				
<p>7. $20 = 8 + \square$</p>	<p>7. Zungelezela iinomboro ezimbili nazihlanganiswako zenza ama-30.</p> <p>8 14 12 7 19</p>				
<p>8. $\square + 3 = 20$</p>	<p>8. Zungelezela iinomboro ezimbili nazihlanganiswako zenza ama-30.</p> <p>10 14 9 16 13</p>				
<p>9. <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="padding: 5px;">21</td> <td style="padding: 5px;"><input style="width: 30px; height: 20px;" type="text"/></td> </tr> <tr> <td colspan="2" style="padding: 5px; text-align: center;">30</td> </tr> </table></p>	21	<input style="width: 30px; height: 20px;" type="text"/>	30		<p>9. $\begin{array}{r} + \quad \text{—————} \\ 69 \end{array}$</p> <p>$69 + \square = 100$</p>
21	<input style="width: 30px; height: 20px;" type="text"/>				
30					
<p>10. $56 + 30 = \square$</p>	<p>20. $22 + 18 = \square$</p>				
Inani seliloke: 20					

Ukuhlela kabutjha: Ngemuva kokuhlolwa	
INGCENYE YESI-2	Imizuzu emi-3 yenzelwe ikhasi leli
1.	$8 + 97 = \square$
2.	$27 + 48 + 23 = \square$
3.	$199 + 98 + 1 + 2 = \square$
4.	$37 + 56 + 13 = \square$
5.	$38 + 125 + 15 = \square$
6.	$2 \times 7 \times 5 = \square$
7.	$8 + 97 = 97 + \square$
8.	$96 + 58 + 4 = 100 + \square$
9.	$99 + 97 + 1 + \square = 200$
10.	Zungelezela iinomboro ezimbili ezihle khulu bonyana ungazihlanganisa maqangi esedeni le: 43 36 14
Inani seliloke: 10	

UKUHLOBANISA

UKUHLANGANISA NOKUKHUPHA

Isingeniso

Umqopho wesifundo esithomako usebudlelwaneni phakathi kokuhlanganisa begodu nokukhupha. Sisebenzisa ubudlelwane lobu ukutjhugulula ukubala ukusuka ekuhlanganiseni ukuya ekukhupheni, begodu nekukhupheni ukuya ekuhlanganiseni, njengeqhinga lokubalisisa. Lokhu kufaka hlangana ukuzwisisa ubudlelwane phakathi kwama-opheratjhini womabili lawa begodu nokuzwisisa ubudlelwane phakathi kweenomboro ezisemitjhweni yeenomboro ehlanganisako begodu nekhuphako. Eminye yemisebenzi irholwa ngutitjhere ebhodini begodu eminye yenziwa bafundi ngokuzijamela.

Amakghono wokukhumbula masinya

KunAmakghono wokukhumbula masinya amathathu afanele afundwe bafundi wobudlelwane phakathi kokuhlanganisa begodu nokukhupha njengeqhinga lokubalisisa:

- ukuhlanganisa iinomboro ezinedijithi elilodwa neenomboro ezinamadijithi amabili, ukufaka hlangana ukweyamela etjhumini (isib. $28 + 4$; $39 + 2$)
- ukukhupha iinomboro ezinedijithi elilodwa eenomborweni ezinamadijithi amabili, ukufaka hlangana ukweyamela etjhumini (isib. $33 - 5$; $52 - 4$)
- Ukusebenza butjhelela begodu nangamajadu ngamabha dayagramu ukubona bonyana ngikuphi ukubalisisa okulula okunobudlelwane bokurarulula imiraro.

Igama:

Ukuhlobanisa ukuhlanganisa nokukhupha: Ngaphambi kokuhlolwa					
INGCENYE YOKU-I	Amaminithi ama-2 enzelwe ikhasi lesi				
1. $88 + \square = 92$	Zalisa i-15, 5 begodu nama-20 emit jhweni yeenomboro engenzasi (II - I4). <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">15</td> <td style="text-align: center;">5</td> </tr> <tr> <td colspan="2" style="text-align: center;">20</td> </tr> </table>	15	5	20	
15	5				
20					
2. $42 - 4 = \square$	II. $\square - 5 = \square$				
3. $86 + 5 = \square$	12. $\square + 5 = \square$				
4. $17 + \square = 23$	13. $\square - \square = 5$				
5. $199 + \square = 201$	14. $5 + \square = \square$				
Zalisa iinomboro ezintathu lezi emabhoksini ekungiwu: $11 - 9 = 2$.	15. $99 + \square = 102$				
6. <table border="1" style="width: 100%; height: 100px;"> <tr> <td style="width: 20%; height: 40px;"><div style="border: 1px solid black; width: 80%; height: 80%; margin: 5px;"></div></td> <td style="width: 80%; height: 40px;"><div style="border: 1px solid black; width: 80%; height: 80%; margin: 5px;"></div></td> </tr> <tr> <td colspan="2" style="height: 60px;"><div style="border: 1px solid black; width: 40%; height: 80%; margin: 5px auto;"></div></td> </tr> </table>	<div style="border: 1px solid black; width: 80%; height: 80%; margin: 5px;"></div>	<div style="border: 1px solid black; width: 80%; height: 80%; margin: 5px;"></div>	<div style="border: 1px solid black; width: 40%; height: 80%; margin: 5px auto;"></div>		16. $21 - \square = 19$
<div style="border: 1px solid black; width: 80%; height: 80%; margin: 5px;"></div>	<div style="border: 1px solid black; width: 80%; height: 80%; margin: 5px;"></div>				
<div style="border: 1px solid black; width: 40%; height: 80%; margin: 5px auto;"></div>					
8. $302 - 5 = \square$	17. $37 + 6 = \square$				
9. $29 + \square = 34$	18. $47 + \square = 55$				
10. $91 - \square = 89$	19. $34 - \square = 29$				
	20. $75 + \square = 82$				
Inani seliloke: 20					

Ukuhlobanisa ukuhlanganisa nokukhupha: Ngemuva kokuhlolwa					
INGCENYE YESI-2	Imizuzu emi-3 yenzelwe ikhasi leli				
1.	$92 - 88 = \square$				
2.	$4 + \square = 402$				
3.	$\square - 82 = 5$				
4.	$82 - 75 = \square$				
5.	$201 - 199 = \square$				
6.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; height: 30px; vertical-align: middle;">\square</td> <td style="text-align: center; vertical-align: middle;">99</td> </tr> <tr> <td colspan="2" style="text-align: center; height: 30px; vertical-align: middle;">102</td> </tr> </table>	\square	99	102	
\square	99				
102					
7.	$27 + 15 = 42$ $27 + 15 = 42$ $42 - 15 = \square$				
8.	$24 + 42 = 66$ $24 + 18 = 42$ $\square + 24 = 42$				
<p>Sebenzisa iinomboro ezintathu ezingenzasi ukubalisisa ukukhupha okubili okuhlukileko:</p> <p>$83 + 37 = 120$</p>					
9.	$\square - \square = \square$				
10.	$\square - \square = \square$				
Inani seliloke li-10					

UKUHLOBANISA UKUHLANGANISA NOKUKHUPHA: ISIFUNDO ESITHOMAKO

SOKU- 1

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Ukuhlanganisa masinya: iinomboro ezinedijithi eli-1 begodu neenomboro ezinamadijithi ama-2.

Khetha inomboro enamadijithi ama-2 bese ubawa abafundi bonyana bahlanganise iinomboro ezihlukahlukene ezinedijithi eli-1 kiyo.

- Utijtjhere: 29 + 4 → Abafundi: 33
- Utijtjhere: 29 + 2 → Abafundi: 31
- Utijtjhere: 29 + 5 → Abafundi: 34
- Utijtjhere: 29 + 7 → Abafundi: 36 njalo njalo...

- Utijtjhere: 37 + 5 → Abafundi: 42
- Utijtjhere: 37 + 9 → Abafundi: 46
- Utijtjhere: 37 + 6 → Abafundi: 43
- Utijtjhere: 37 + 3 → Abafundi: 40 njalo njalo...

Yelega: Abafundi bangabala ukuya phezulu naphasi masinya nangabe bahlanganisa nofana bakhupha ku-2, 3, nofana 4, kodwana bafanele bakhuthazwe ukusebenzisa iqhinga lokweyamela etjhumini nakuhlanganiswa begodu nakukhutjiswa ku-5, 6, 7, 8, begodu ne-9 ngokusebenzisa umfanekiso wehloko wenambalayini.

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa ama-bha dayagramu ukuhlobanisa ukuhlanganisa nokukhupha.

Yelega: Ibha-dayagramu enzima, etshetlha begodu nemhlophe iyatholakala encwadini i-Print Masters.

<p>Utijtjhere: Emndenini webha dayagramu, amabha amabili amancani nakawoke anobukhulu obulingana nebha ekulu. Nasiqala ubukhulu bamabha wemibala ehlukehlukeneko (emhlophe, etshetlha begodu nenzima) siyabona bonyana ubude bamabha amancani ama-2 nakawoke alingana nobude bebha ekulu.</p> <p>Utijtjhere: Ibha ekulu khulu (enzima) siyibiza bonyana yi-‘Kulu’ (namathisela ilebula ‘Kulu’ kubha enzima), begodu amabha amabili amancani ngayinye siyibiza bonyana yi-‘Ncani’ (namathisela amalebula athi ‘Ncani’ emabha amancani?)</p> <p>Utijtjhere: Ubude be-‘Kulu bulingana noNcani hlanganisa noNcani’</p>	<p>Namathisela ibha-dayagramu engenzasi ebhodini bese unamathisela amagama (Kulu, Ncani, Ncani) angenzasi kwedayagramu</p> <div style="text-align: center;"> </div> <div style="text-align: center; margin-top: 10px;"> </div> <p style="text-align: center;">Kulu = Ncani + Ncani</p>
--	--

Tlola ukubalisisa ebhodini.	
<p>Utijhere: Nginikela eminye imitjho yokuhlanganisa begodu neyokukhupha yebha dayagramu?</p> <p>Abafundi: $Kulu - Ncani = Ncani$, njll.</p> <p>Tlola ipendulo yomfundi ngayinye ngesikhathi, bawa abafundi bamukele nofana bale ipendulo enikelweko (banikele iinzathu)</p> <p>Utijhere: Ungathini ngo 'Ncani - Khulu = Ncani'? (Kutlole)</p> <p>Abafundi batjho bonyana umutjho uliqiniso nofana umamala. Bawa abafundi bakunikele iinzathu.</p> <p>Thala umuda ovundla imitjho itlasi elivumeleneko bonyana emamala (nofana akusilo iqiniso). Tlola 'mamala nawo.</p> <p>Yenza okufanako ngalokhu '$Ncani + Kulu = Ncani$'</p>	<p>$Kulu - Ncani = Ncani$ $Ncani + Ncani = Kulu$</p> <p>$Ncani - Kulu = Ncani?$</p> <p>$Ncani - Kulu = Ncani$ mamala</p> <p>$Ncani + Kulu = Ncani$ mamala</p>

Imisebenzi yomfundi ngamunye

Abafundi bafanele njenganje bazame ngamunye ukwenza umsebenzi wephepha lomsebenzi elinikelweko lesifundo esithomako soku-1.

Ividiyo esekeleko

Ukuhlobanisa ukuhlanganisa nokukhupha koku-1



<https://youtu.be/nha592FZEAc>

**UKUHLOBANISA UKUHLANGANISA NOKUKHUPHA: ISIFUNDO ESITHOMAKO
SOKU-1**

Umsebenzi womfundi ngamunye

Tlola amagama Kulu, Ncani begodu noNcani eduze namabha ekungiuwo edayagramini engenzasi:

3	6
9	

Beka itshwayo (✓) eduze nemitjho yeenomboro eliqiniso/ekungiuwo, begodu beka isiphambano eduze nemitjho yeenomboro engasilo iqiniso/ekungasingiuwo (X):

- | | |
|-------------|-------------|
| $3 + 6 = 9$ | $6 - 3 = 9$ |
| $9 = 6 + 3$ | $9 - 3 = 6$ |
| $6 + 9 = 3$ | $3 = 9 - 6$ |
| $6 + 3 = 9$ | $9 - 6 = 3$ |
| $3 + 9 = 6$ | $3 - 6 = 9$ |

UKUHLOBANISA UKUHLANGANISA NOKUKHUPHA: ISIFUNDO ESITHOMAKO SESI-2

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Ukukhupha masinya: iinomboro ezinedijithi eli-1 eenomborweni ezinamadijithi ama-2

Khetha inomboro enamadijithi ama-2 bese ubawa abafundi bonyana bakhuphe iinomboro ezihlukahlukene ezinedijithi eli-1 kiyo.

Utijhere: 71 – 1	→	Abafundi: 70	
Utijhere: 71 – 3	→	Abafundi: 68	
Utijhere: 71 – 5	→	Abafundi: 66	
Utijhere: 71 – 7	→	Abafundi: 64	njalo njalo ...
Utijhere: 42 – 2	→	Abafundi: 40	
Utijhere: 42 – 4	→	Abafundi: 38	
Utijhere: 42 – 6	→	Abafundi: 36	
Utijhere: 42 – 9	→	Abafundi: 33	njalo njalo ...

Ukulandelana komsebenzi

Esifundweni lesi sitjengisa ubudlelwano bokuhlanganisa nokukhupha phakathi kweenomboro ezimndeneni wenomboro.

<p>Utijhere: Ungacabanga bonyana iinomboro 4, 6 begodu ne-10 zihlobana njani?</p> <p>Abafundi bangaphakamisa ubudlelwano njengokuthi ‘ngesikhathi kune nesithandathu kwenza itjhumu, nofana ‘nangabe sikhupha kune etjhumini sithola isithandathu’, nofana ‘4 + 6 = 10’ nofana ‘10 – 4 = 6’.</p> <p>Tlola ipendulo yomfundi ngayinye ngesikhathi, bawa itlasi litjho bonyana iimphakamiso ziliqiniso/zingizo nofana mamala/akusizo (banikele iinzathu). Sula iimpendulo ekungasizo.</p> <p>Utijhere: Iinomboro 4, 6 ne-10 zihlobene nasihlanganisako begodu nasikhuphako. Zingathathwa njengomndeneni wenomboro. Ebha-dayagramini yomndeneni wenomboro, iinomboro ezimbili ezincani sezizoke ziyafana ngobukhulu njengenomboro ekulu. Lapha, ubude bakaku-4 + 6 (okuncani okubili emndenini) kulingana nobude obuli-10 (yi-1 ekulu emndenini).</p> <p>Gwala ibha-dayagramu njengobana kutjengisiwe.</p>	<p>Tlola 4, 6 begodu ne-10 ebhodini</p> <p style="text-align: center;">4 6 10</p> <p>kune nesithandathu kwenza itjhumu</p> <p>itjhumu khupha isithandathu kulingana nakune</p> <p>4 + 6 = 10</p> <p>6 + 4 = 10</p> <p>10 – 6 = 4</p> <p>10 – 4 = 6</p> <div style="text-align: center; margin-top: 20px;"> <table border="1" style="margin: auto; border-collapse: collapse;"> <tbody> <tr> <td style="padding: 5px;">4</td> <td style="padding: 5px;">6</td> </tr> <tr> <td colspan="2" style="text-align: center; padding: 5px;">10</td> </tr> </tbody> </table> </div>	4	6	10	
4	6				
10					

Utijhere: Ezinye iinomboro ezintathu ezihlobanako nasihlanganisa begodu nasikhupha ngu-8, 3 begodu noku-5. Iinomboro lezi **zimndeni wenomboro**. Zihlobana njani iinomboro lezi ebha dayagramini?

Gwala ibha-dayagramu enganalitho njengobana kutjengisiwe.

Abafundi baphakamisa ukuhlobana phakathi kobu-8,3 begodu noku-5 nokobana kukuphi lapho inomboro ngayinye efanele iye khona ebha dayagramini.

Tlola iimpendulo zabafundi njengaphambilini. Rekhoda okuvunyelenwe ngakho ebhodini emakholomini amabili. Uzokudinga ukusiza abafundi ngezokugcina ezi-2 ekholomini ngayinye ngokusebenzisa amafreyimu afana nalandelako:

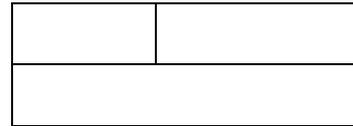
$8 = \square + \square$; $3 = \square - \square$; $5 = \square - \square$

Utijhere: Komunye nomunye umndeni wenomboro singenza imitjho yeenomboro emi-4 yokuhlanganisa nemi-4 yokukhupha. Asibuyeleni esibonelweni sethu sangaphambilini begodu sibone nangabe kukhona esikutjhiyileko.

Rekhoda imitjho yeenomboro yakabu- 8, 3 begodu noku-5 etjhiyiweko.

Tlola 8, 3 noku-5 ebhodini.

8 3 5



+	-
iimbalo	iimbalo
$5 + 3 = 8$	$8 - 3 = 5$
$3 + 5 = 8$	$8 - 5 = 3$
$8 = 5 + 3$	$5 = 8 - 3$
$8 = 3 + 5$	$3 = 8 - 5$

Umsebenzi womfundi ngamunye

Abafundi bafanele basebenze ngababili begodu bagwale ibha-dayagramu yomndeni wenomboro we-7, 9 ne-16. Bese batlola ukubalisisa komndeni wenomboro oku-4 kokuhlanganisa begodu noku-4 kokukhupha.

Khambakhamba uzombeleze ubone umsebenzi wangababili begodu basize nakutlhogekeko.

Ividiyo esekelako

Ukuhlobanisa ukuhlanganisa nokukhupha kwesi-2



<https://youtu.be/fKPfCfF0w1l>

UKUHLOBANISA UKUHLANGANISA NOKUKHUPHA: ISIFUNDO

ESITHOMAKO SESI-3

Umzuzu mu-1 wokukhaliphisa umkhumbulo

- a. Ukuhlanganisa masinya: iinomboro ezinedijithi eli-1 begodu neenomboro ezinamadijithi ama-2
- b. Ukukhupha masinya: iinomboro ezinedijithi eli-1 eenomborweni ezinamadijithi ama-2

Ukulandelana komsebenzi

Esifundweni lesi sizijayeza ukuhlobanisa ukuhlanganisa nokukhupha sisebenzisa amabha dayagramu.

<p>Utijhere: Iinomboro 17, 5 nama-22 ziyahlobana nasihlanganisako begodu nasikhuphako. Zimndeni wenomboro.</p> <p>Gwala ibha-dayagramu enganalitho njengabana kutjengisiwe.</p> <p>Abafundi baphakamisa ukuhlobanisa phakathi kwe-17, 5 nama-22 nalapho ekufanele inomboro ngayinye iye khona kubha dayagramu.</p> <p>Tlola ipendulo yomfundi njengaphambilini emakholomini amabili wokubalisisa ukuhlanganisa nokukhupha. Sula iipendulo ekungasingizo. Uzokudinga ukusiza abafundi ngezi-2 zokugcina ekholomini ngayinye ngokusebenzisa amafreyimu afana nalandelako:</p> <p>$22 = \square + \square$; $5 = \square - \square$; $17 = \square - \square$</p> <p>Utijhere: Komunye nomunye umndeni wenomboro singenza imitjho yeenomboro emi-4 yokuhlanganisa nemi-4 yokukhupha. Asiboneni nangabe kukhona esikutjhiyileko.</p> <p>Rekhoda imitjho yeenomboro ye-17, 5 nama-22 etjhiyiweko.</p>	<p>Tlola 17, 5 nama-22 ebhodini.</p> <p style="text-align: center;">17 5 22</p> <div style="border: 1px solid black; width: 100%; height: 40px; margin: 10px 0;"></div> <table border="1" style="width: 100%; border-collapse: collapse; margin: 10px 0;"> <thead> <tr> <th style="width: 50%; text-align: center;">+</th> <th style="width: 50%; text-align: center;">-</th> </tr> <tr> <th style="text-align: center;">ukubala</th> <th style="text-align: center;">ukubala</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">$5 + 17 = 22$</td> <td style="text-align: center;">$22 - 17 = 5$</td> </tr> <tr> <td style="text-align: center;">$17 + 5 = 22$</td> <td style="text-align: center;">$22 - 5 = 17$</td> </tr> <tr> <td style="text-align: center;">$22 = 5 + 17$</td> <td style="text-align: center;">$5 = 22 - 17$</td> </tr> <tr> <td style="text-align: center;">$22 = 17 + 5$</td> <td style="text-align: center;">$17 = 22 - 5$</td> </tr> </tbody> </table>	+	-	ukubala	ukubala	$5 + 17 = 22$	$22 - 17 = 5$	$17 + 5 = 22$	$22 - 5 = 17$	$22 = 5 + 17$	$5 = 22 - 17$	$22 = 17 + 5$	$17 = 22 - 5$
+	-												
ukubala	ukubala												
$5 + 17 = 22$	$22 - 17 = 5$												
$17 + 5 = 22$	$22 - 5 = 17$												
$22 = 5 + 17$	$5 = 22 - 17$												
$22 = 17 + 5$	$17 = 22 - 5$												

Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjesi basebenzise iphepha lokusebenzela lomfundi ngamunye elinikelweko lesifundo esithomako sesi-3

Abafundi bafanele bafake imindeni yeenomboro ebha dayagramini ekungiyiyo. Bafanele bamadanise ubukhulu beenomboro ezincani ezimbili nobukhuli bamabha amancani.

Ividiyo esekelako

Ukuhlobanisa ukuhlanganisa nokukhupha kwesi-3



<https://youtu.be/r02iTWJMfP0>

Igama:

Ukuhlobanisa ukuhlanganisa nokukhupha: Isifundo esithomako sesi-3: Umsebenzi womfundi ngamunye

Tlola imindeni yeenomboro ezilandelako ebha dayagramini ekungiyi engenzasi. Bese utlola imit jho yeenomboro emine yokuhlanganisa begodu nemi-4 yokukhupha yomndeni ngamunye wenomboro.

$$5 + 5 = 10 \quad 3 + 4 = 7 \quad 11 + 1 = 12 \quad 9 = 2 + 7$$

Thoma ngoku $5 + 5 = 10$. Ngiyiphi idayagramu emadaniswa noku- $5 + 5$?

Yelega bonyana $5 + 5 = 10$ kunemit jho yeenomboro emibili yokuhlanganisa begodu nemibili yokukhupha kwaphela.

<table border="1" style="width: 100%; height: 60px; margin-bottom: 10px;"> <tr> <td style="width: 20%;"></td> <td style="width: 80%;"></td> </tr> <tr> <td colspan="2"></td> </tr> </table> <p>Ukuhlanganisa:</p> <hr/> <hr/> <hr/> <hr/> <p>Ukukhupha:</p> <hr/> <hr/> <hr/> <hr/>					<table border="1" style="width: 100%; height: 60px; margin-bottom: 10px;"> <tr> <td style="width: 80%;"></td> <td style="width: 20%;"></td> </tr> <tr> <td colspan="2"></td> </tr> </table> <p>Ukuhlanganisa:</p> <hr/> <hr/> <hr/> <hr/> <p>Ukukhupha:</p> <hr/> <hr/> <hr/> <hr/>					<table border="1" style="width: 100%; height: 60px; margin-bottom: 10px;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%;"></td> </tr> <tr> <td colspan="2"></td> </tr> </table> <p>Ukuhlanganisa:</p> <hr/> <hr/> <hr/> <hr/> <p>Ukukhupha:</p> <hr/> <hr/> <hr/> <hr/>					<table border="1" style="width: 100%; height: 60px; margin-bottom: 10px;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%;"></td> </tr> <tr> <td colspan="2"></td> </tr> </table> <p>Ukuhlanganisa:</p> <hr/> <hr/> <hr/> <hr/> <p>Ukukhupha:</p> <hr/> <hr/> <hr/> <hr/>				

Ividiyo esekelako

Ukuhlobanisa ukuhlanganisa nokukhupha kwesi-4



<https://youtu.be/KPsfH209EEM>

**UKUHLOBANISA UKUHLANGANISA NOKUKHUPHA: ISIFUNDO
ESITHOMAKO SESI-4**

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Gwala ibha-dayagramu yananyana ngikuphi ukuhlobana kweenomboro ezi-3 ezithoma ku-1-20. Iimbongo ezimbili zinikelwe ngenzasi. Gwala amabha dayagramu abonakala alingana neenomboro.

7	3
10	

4	9
13	

Nje-ke bawa abafundi bakunikele imitjho yeenomboro ehluhlukeneko yokuhlanganisa neyokukhupha esebenza ebha dayagramini. Lokha abafundi nabaphakamisa imitjho yeenomboro ekungaba ngiyo, khomba iinomboro lezo ebha dayagramini.

Qinisekisa bonyana abafundi baphakamisa imitjho yeenomboro yomibili yokuhlanganisa begodu neyokukhupha:

isib. $7 + 3 = 10$ $3 + 7 = 10$ $10 - 3 = 7$ $10 - 7 = 3$

Khuthaza abafundi bonyana baphakamise godu imitjho yeenomboro lapho 'ipendulo' iza khona kokuthoma,

isib. $10 = 7 + 3$ $10 = 3 + 7$ $3 = 10 - 7$ $7 = 10 - 3$

Yeleva: Ngeenkxhathi zoke kuba nemitjho yeenomboro ebu-8 njengale engehla esebenza ebha dayagramini ngayinye. Abafundi abakalindeleki bonyana baphakamise imitjho yeenomboro yoke yobu-8, kodwana kuhle ubakhuthaze baphakamise ehluhlukeneko.

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa ukuhlobana phakathi kokuhlanganisa nokukhupha ukutlola ukubalisisa okuhluhlukeneko okunamasede weenomboro afanako.

<p>Bamba amalebula ano 'Kulu' 'Ncani begodu 'noNcani'.</p> <p>Utijtjhere: Sifundile bonyana kunebha eKulu e-1 begodu namabha amaNcani ama-2 emndenini wenomboro. Sibiza amabha lawa ngokuthi Kulu, Ncani begodu Ncani (Phakamisela phezulu amalebula) Ngubani ongangisiza ukulebula amabha ebha dayagramini le?</p> <p>Biza umfundi azokunamathisela amagama eduze namabha.</p> <p>Utijtjhere: Ngifuna sizalise umndeni wenomboro i-15, 5 ne-10 ebha dayagramini le.</p> <p>Tlola 15, 5 ne-10 ebhodini. Khumbuza abafundi bonyana inomboro ekulu khulu izokungena kubha elebulwe Kulu bese iinomboro ezimbili ezincani zizokungena emabha alebulwe Ncani. Zalisa iinomboro ngesizo elivela kubafundi. Nangabe batjhintja i-10 noku-5, bakhumbuze bonyana ubukhulu bamabha bufanele bumadane nobukhulu benomboro.</p>	<p>Gwala ibha-dayagramu engenzasi ebhodini.</p> <table border="1" style="margin: 10px auto;"> <tr> <td style="width: 50px; height: 30px;"></td> <td style="width: 50px; height: 30px;"></td> </tr> <tr> <td colspan="2" style="height: 30px;"></td> </tr> </table> <table border="1" style="margin: 10px auto;"> <tr> <td style="width: 50px; height: 30px; text-align: center;">Ncani</td> <td style="width: 50px; height: 30px; text-align: center;">Ncani</td> </tr> <tr> <td colspan="2" style="height: 30px; text-align: center;">Kulu</td> </tr> </table> <p style="text-align: center; margin: 10px 0;">15 5 10</p> <table border="1" style="margin: 10px auto;"> <tr> <td style="width: 50px; height: 30px; text-align: center;">10</td> <td style="width: 50px; height: 30px; text-align: center;">5</td> </tr> <tr> <td colspan="2" style="height: 30px; text-align: center;">15</td> </tr> </table>					Ncani	Ncani	Kulu		10	5	15	
Ncani	Ncani												
Kulu													
10	5												
15													

<p>Utijhere: Nginkelani eminye imitjho yeenomboro zomndeni 15, 5 ne-10.</p> <p><i>Yelega: Akutlhogeki bonyana uthole imitjho yoke ebu-8 yomndeni wenomboro lo. Ofuna ukukubona kukobana abafundi babuyazwisisa ubudlelwano phakathi kweenomboro. Nangabe kunikelwe iimpendulo 'ezimamala' khumbuza itlasi ngemitjho eliqiniso nemamala abayifunde ngaphambilini.</i></p> <p><i>Isib. Nceni—Kulu—Nceni Mamala</i></p>					
<p>Umraro: 25 – 22</p> <p>Utijhere: Nangabe sizama ukwenza ukubalisisa lokhu ngama-22 ukuya emuva ukusuka ema-25 lokho kuzokuthatha isikhathi eside. Kodwana singagwala ibha-dayagramu yomndeni wenomboro le ukuthola indledlana elula yokuthola inomboro engekho. Ama-25 maKhulu begodu ama-22 ngelilodwa lamaNceni.</p> <p>Gwala ibha-dayagramu bese uzalisa ama-22 nama-25 ngakiyo.</p> <p>Utijhere: Ibha le yincani ngombana ama-22 nama-25 (akhombea edayagramini) atjhidlene khulu. Ngokunjalo kuzokuba lula ukubuza bonyana ama-22 ahlanganiswa nani ukwenza ama-25? (khomba idayagramu nawutjho lokhu, tlola umutjho) nofana ama-25 khupha ngaki kulingana nama-22? (khomba edayagramini; tlola umutjho). Ngingafunyana ipendulo masinya nangibala ukuya phambili ukusuka ema-22, nofana ngokubala uya emuva ukusuka ema-25.</p> <p>Balisisani inomboro engekho nabafundi.</p> <p>Tlola 'uku-3' kubha encani ngemabhoksini amancani anganalitho wemitjho weenomboro</p> <p>Utijhere: Nasinenomboro engekho singakwazi ukubona yoke imitjho yokuhlanganisa begodu neyokukhupha engenziwa ngomndeni wenomboro leyo.</p> <p>Khumbuza abafundi ngeminye yemitjho engenziwa njengobana ukhomba amabha.</p> <p>Utijhere: (khomba umraro wekuthomeni) Sibale ka-3 ukuthola ipendulo kunokubala ama-22. Singaqala ibha-dayagramu ukuthola ukubalisisa okulula.</p>	<p style="text-align: right;">25 – 22 = <input type="text"/></p> <div style="border: 1px solid black; width: 150px; height: 50px; margin: 10px auto; display: flex; align-items: center; justify-content: center;"> <table border="1" style="border-collapse: collapse;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 100px; height: 20px; text-align: center;">22</td> </tr> <tr> <td style="width: 100px; height: 20px;"></td> <td style="width: 20px; height: 20px; text-align: center;">25</td> </tr> </table> </div> <p>Tlola iimbalo lezi:</p> <p>22 + <input type="text"/> = 25</p> <p>25 – <input type="text"/> = 22</p> <p>Tjhiya idayagramu nemitjho ebhodini</p>		22		25
	22				
	25				

Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjesi bazame ukwenza iimbonelo ezilandelako ngokuthoma ngokukopulula ibha-dayagramu begodu bazalise ngeenomboro abazinikelweko. Abafundi bafanele batlole ukubalisisa okumasinya abakusebenzisileko ukuthola ipendulo.

$21 - 17 = \square$



$28 - 25 = \square$



Abafundi bafanele batjho igama Kulu begodu noNcani emibuzweni ukuhlathulula ukucabanga kwabo. Isib. ‘ $21 - 17$, Ngitjhugulula ukubalisisa ngibale ukusuka ku-17 ukufika ema-21 ngokubala $17 + \square = 21$ ’ nofana “Ngingatjhugulula ukubalisisa kwama- $21 - 17$ ukubala ngibuyele emuva ukusuka ema-21 ukuya ku-17 ngokubala ama- $21 - \square = 17$.”

Umsebenzi wekhaya: Iphepha lokusebenzela loku-1

Ekupheleni kwesifundo sanamhlanjesi nikela abafundi iphepha lokusebenzela loku-1. Akutlhogeki bonyana wabele abafundi isikhathi sokwenza iphepha lokusebenzela leli. Umnqopho kukunikela abafundi umsebenzi wokutlolela ukuzijayeza abawenza ngehloko.

Igama:

Ukuhlobanisa ukuhlanganisa nokukhupha: Iphepha lokusebenzela loku-

<p>1. $67 + \square = 72$</p>	<p>Zalisa 17, 3 nama-20 ngemitjhweni yeenomboro engenzasi (11 - 14).</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">17</td> <td style="padding: 5px;">3</td> </tr> <tr> <td colspan="2" style="text-align: center; padding: 5px;">20</td> </tr> </table>	17	3	20	
17	3				
20					
<p>2. $54 - 6 = \square$</p>	<p>11. $\square - 3 = \square$</p>				
<p>3. $78 + 7 = \square$</p>	<p>12. $\square + 3 = \square$</p>				
<p>4. $26 + \square = 34$</p>	<p>13. $\square - \square = 3$</p>				
<p>5. $99 + \square = 102$</p>	<p>14. $3 + \square = \square$</p>				
<p>6. Zalisa iinomboro ezintathu lezi ngemabhokisini: $13 - 8 = 5$</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">\square</td> <td style="padding: 5px;">\square</td> </tr> <tr> <td colspan="2" style="text-align: center; padding: 5px;">\square</td> </tr> </table>	\square	\square	\square		<p>15. $198 + \square = 202$</p> <p>16. $31 - \square = 28$</p>
\square	\square				
\square					
<p>7. $206 - 8 = \square$</p>	<p>17. $46 + 8 = \square$</p>				
<p>8. $48 + \square = 54$</p>	<p>18. $55 + \square = 63$</p>				
<p>9. $81 - \square = 78$</p>	<p>19. $64 - \square = 59$</p>				
<p>10. $39 + \square = 44$</p>	<p>20. $65 + \square = 72$</p>				

Amanowuthi katitjhere

Lapha ungatlola amanowuthi ngesifundo begodu nangokuthi ngibaphi abafundi abadinga isizo lamaqhinga ahlukehlukeneko. Ungatlola amanowuthi wananyana ngiziphi izinto ofuna ukuzethula esifundweni esithomako esilandelako.

UKUHLOBANISA UKUHLANGANISA NOKUKHUPHA: ISIFUNDO

ESITHOMAKO SESI-5

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Ukusebenza ngamabha dayagramu

Ukulandelana kwemisebenzi

Esifundweni lesi sithola ukubalisisa okulula okuhlobeneko kokubala ngokuhlanganisa lapho eyodwa yeenomboro ezihlanganiswako ingekho.

<p>Umraro: $6 + \square = 25$ $\square + 3 = 28$</p> <p>Utijhere: Esifundweni esigadungileko sibonile bonyana singatjhugulula ukubalisisa kube kubalisisa okulula okuhlobeneko kokuhlanganisa nofana kokukhupha ukuze sithole inomboro engekho. Qala ukubalisisa lokhu ebhodini.</p> <p>Gwala amabha dayagramu anganalitho atjengisiweko begodu sebenza nabafundi ukwakha amabha dayagramu wokubalisisa.</p> <p>Utijhere: Ngisizani ukuqedelela amabha dayagramu wokubalisisa lawa.</p> <p>Bawa abafundi bakuyalele lapho ufanele ugwale khona imida emabha aphezulu, nalapho ofanele utlole khona inomboro ngayinye.</p> <p>Utijhere: Kulula ukunikela ipendulo yama- 25 khupha 6 (khomba inomboro ezikubha dayagramu) nofana ama-28 khupha ku-3 (khomba inomboro ezikubha dayagramu).</p> <p>Balisisani ninabafundi, nisebenzisa ukweyamela etjhumini nakutlhogekeko (isib. $25 - 5$ kwenza ama-20 begodu ama-20 - 1 kwenza 19, ngokunjalo $25 - 6 = 19$).</p> <p>Tlola iimpendulo emabha anganalitho nemabhoksini anganalitho njengobana kutjengisiwe. Bese uzalisa imitjho yeenomboro ezisekuthomeni.</p> <p>Utijhere: Sithola kulula ukurarulula ukubalisisa kokuhlanganisa nasikutjhugululela ekubalisiseni kokukhupha.</p>	<p>Tlola iimbalo bedodu ibha-dayagramu ingabi nalitho njengobana itjengisiwe.</p> <p>$6 + \square = 25$ $\square + 3 = 28$</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 50%; height: 20px;"></td> <td style="border: 1px solid black; width: 50%; height: 20px;"></td> </tr> <tr> <td style="border: 1px solid black; width: 50%; height: 20px;"></td> <td style="border: 1px solid black; width: 50%; height: 20px;"></td> </tr> </table> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 50%; padding: 5px;"><table style="width: 100%; border-collapse: collapse;"><tr><td style="border: 1px solid black; width: 20px; text-align: center;">6</td><td style="border: 1px solid black; width: 80px;"></td></tr><tr><td colspan="2" style="border: 1px solid black; text-align: center;">25</td></tr></table></td> <td style="border: 1px solid black; width: 50%; padding: 5px;"><table style="width: 100%; border-collapse: collapse;"><tr><td style="border: 1px solid black; width: 80px;"></td><td style="border: 1px solid black; width: 20px; text-align: center;">3</td></tr><tr><td colspan="2" style="border: 1px solid black; text-align: center;">28</td></tr></table></td> </tr> </table> <p>$25 - 6 = \square$ $28 - 3 = \square$</p> <table style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 50%; padding: 5px;"><table style="width: 100%; border-collapse: collapse;"><tr><td style="border: 1px solid black; width: 20px; text-align: center;">6</td><td style="border: 1px solid black; width: 80px; text-align: center;">19</td></tr><tr><td colspan="2" style="border: 1px solid black; text-align: center;">25</td></tr></table></td> <td style="border: 1px solid black; width: 50%; padding: 5px;"><table style="width: 100%; border-collapse: collapse;"><tr><td style="border: 1px solid black; width: 80px; text-align: center;">25</td><td style="border: 1px solid black; width: 20px; text-align: center;">3</td></tr><tr><td colspan="2" style="border: 1px solid black; text-align: center;">28</td></tr></table></td> </tr> </table> <p>$25 - 6 = \boxed{19}$ $28 - 3 = \boxed{25}$</p> <p style="text-align: center;">↓ ↓</p> <p>$6 + \boxed{19} = 25$ $\boxed{25} + 3 = 28$</p>					<table style="width: 100%; border-collapse: collapse;"><tr><td style="border: 1px solid black; width: 20px; text-align: center;">6</td><td style="border: 1px solid black; width: 80px;"></td></tr><tr><td colspan="2" style="border: 1px solid black; text-align: center;">25</td></tr></table>	6		25		<table style="width: 100%; border-collapse: collapse;"><tr><td style="border: 1px solid black; width: 80px;"></td><td style="border: 1px solid black; width: 20px; text-align: center;">3</td></tr><tr><td colspan="2" style="border: 1px solid black; text-align: center;">28</td></tr></table>		3	28		<table style="width: 100%; border-collapse: collapse;"><tr><td style="border: 1px solid black; width: 20px; text-align: center;">6</td><td style="border: 1px solid black; width: 80px; text-align: center;">19</td></tr><tr><td colspan="2" style="border: 1px solid black; text-align: center;">25</td></tr></table>	6	19	25		<table style="width: 100%; border-collapse: collapse;"><tr><td style="border: 1px solid black; width: 80px; text-align: center;">25</td><td style="border: 1px solid black; width: 20px; text-align: center;">3</td></tr><tr><td colspan="2" style="border: 1px solid black; text-align: center;">28</td></tr></table>	25	3	28	
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6	19																								
25																									
25	3																								
28																									

Utijhere: Sibonile bonyana nasinobudisi bokubalisisa ukuhlanganisa nofana ukukhupha singabona enye indlela yokukutjhugulula ukukwenza kube lula. Kodwana singeze sakutjhugululela kunanyana ngikuphi ukubalisisa.

Utijhere: Ngingatjhugulula isi- $6 + \square = 25$ sibe

$$\square - 6 = 25?$$

Tlola ukubalisisa ebhodini. Tjela abafundi bonyana imitjho yeenomboro ifanele ihlobanise ngokukhambelanako nombono waka-Khulu, Ncani, Ncani osebha dayagramini.

Siza abafundi bona bacabange bonyana ngiziphi iinomboro ezisemtjweni ezingalebulwa ngo Khulu, Ncani begodu Ncani bese bayawalebula. Khuluma bonyana $Ncani + Ncani = Khulu$ kunomnqondo nofana akunamqondo. Buza nangabe kuliqiniso nofana emamala.

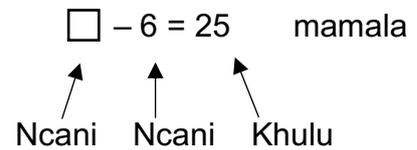
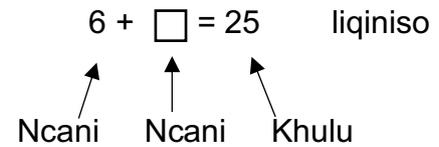
Siza itlasi ukulebula $\square - 6 = 25$ ngendlela efanako begodu thatha isiqunto nangabe

“Ncani – Ncani = Khulu’ emamala nofana kuliqiniso.

Abafundi bafanele balemuke bonyana $\square - 6 = 25$ emamala kilomndeni wenomboro. Ngeza ngoliqiniso nangomamala emitjhwani yeenomboro.

Ngingakghona ukutjhugulula...?

$$6 + \square = 25 \text{ sibe } \square - 6 = 25$$



Imisebenzi yomfundi ngamunye

Abafundi bafanele nje balinge ukwenza iimbonelo ezilandelako. Bafanele bagwale ibhadayagramu yesibalo ngasinye bese babuyelele batlole umutjho wenomboro njengokubalisisa okulula kokuthola inomboro engekho. Nangabe abafundi bayabhalelwa, bakhuthaze ukulebula amabha njengalokhu: Khulu, Ncani noNcani.

$$7 + \square = 32 \quad \square + 3 = 104$$

Ividiyo esekelako

Ukuhlobanisa ukuhlanganisa nokukhupha kwesi-5



<https://youtu.be/bkmaf0ArzuY>

UKUHLOBANISA UKUHLANGANISA NOKUKHUPHA: ISIFUNDO

ESITHOMAKO SESI-6

Umzuzu mu-1 wokukhaliphisa umkhumbulo

Ukusebenza ngamabha dayagramu

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa ubudlelwano phakathi kokuhlanganisa nokukhupha ukwenza ukubalisisa kokukhupha kube lula.

<p>Imiraro: $\square - 30 = 9$ $30 - \square = 9$</p> <p>Utijhere: Esifundweni esigadungileko sibonile bonyana singatjhugulula ukubalisisa kube kubalisisa kokuhlanganisa nofana kokukhupha okuhlukileko nasifuna ukuthola inomboro engekho. Qala ukubalisisa lokhu okusebhodini.</p> <p>Gwala amabha dayagramu anganalitho atjengisiweko bese usebenza nabafundi ukwakha amabha dayagramu wokubalisisa.</p> <p>Utijhere: Ngisizani siqedelele amabha dayagramu wokubalisisa lawa? Ingabe amabha dayagramu azokufana nofana azokuhluka na?</p> <p>Abafundi bafanele batjengise bonyana ahlukile.</p> <p>Esibonelweni sokuthoma ($\square - 30 = 9$), okungaziwako ngukuKhulu begodu ama-30 ne-9 bokuNcani.</p> <p>Esibonelweni sesibili ($30 - \square = 9$), ama-30 maKhulu begodu okungaziwako ne-9 bokuNcani.</p> <p>Bawa abafundi bonyana bakuyalele lapho ufanele ugwale khona imida emabha aphezulu, nalapho ofanele utlole khona inomboro ngayinye. Nangabe abafundi bayahluleka, bakhuthaze bonyana balebule amabha kubha dayagramu njengoKhulu, Ncani begodu Ncani</p> <p>Ragela phambili nokubuza abafundi bonyana ngikuphi okufanako nokuthi ngikuphi okuhlukileko emabha dayagramini womabili.</p> <p>Tlola ukubalisisa okulandelako ebha dayagramini ekungiyi njengobana kutjengisiwe:</p> <p>$30 + 9 = \square$ $30 - \square = 9$</p>	<p>Tlola ukubalisisa begodu namabha dayagramu anganalitho njengobana kutjengisiwe:</p> <p>$\square - 30 = 9$ $30 - \square = 9$</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 50%; height: 20px;"></td> <td style="border: 1px solid black; width: 50%; height: 20px;"></td> </tr> <tr> <td style="border: 1px solid black; width: 50%; height: 20px;"></td> <td style="border: 1px solid black; width: 50%; height: 20px;"></td> </tr> </table> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 50%; text-align: center;">30</td> <td style="border: 1px solid black; width: 5%; text-align: center;">9</td> <td style="border: 1px solid black; width: 50%;"></td> <td style="border: 1px solid black; width: 5%; text-align: center;">9</td> </tr> <tr> <td colspan="2" style="border: 1px solid black;"></td> <td style="border: 1px solid black; text-align: center;">30</td> <td style="border: 1px solid black;"></td> </tr> </table> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; width: 50%; text-align: center;">30</td> <td style="border: 1px solid black; width: 5%; text-align: center;">9</td> <td style="border: 1px solid black; width: 50%;"></td> <td style="border: 1px solid black; width: 5%; text-align: center;">9</td> </tr> <tr> <td colspan="2" style="border: 1px solid black;"></td> <td style="border: 1px solid black; text-align: center;">30</td> <td style="border: 1px solid black;"></td> </tr> </table> <p>$30 + 9 = \square$ $30 - \square = 9$</p>					30	9		9			30		30	9		9			30	
30	9		9																		
		30																			
30	9		9																		
		30																			

<p>Sebenza nabafundi ukubalisisa iimpendulo zama- $30 + 9$ (ezihlobene nebha dayagramu yokuthoma) begodu ama-$30 - 9$ (ezihlobane nebha dayagramu yesibili)</p> <p>Sebenza nabafundi ukufaka iinomboro ekungizo zokubalisisa begodu namabha dayagramini njengobana atjengisiwe.</p> <p>Zalisa imitjho yeenomboro ezisekuthomeni. Tjengisa abafundi bonyana ukubalisisa ama-$30 + 9$ kusize njani ukurarulula $\square - 30 = 9$ begodu ukubalisisa ama-$30 - 9$ kusize bunjani ukurarulula $30 - \square = 9$.</p>	<table border="1" style="margin-bottom: 10px;"> <tr> <td style="padding: 5px;">30</td> <td style="padding: 5px;">9</td> <td style="padding: 5px;">21</td> <td style="padding: 5px;">9</td> </tr> <tr> <td colspan="2" style="padding: 5px;">39</td> <td colspan="2" style="padding: 5px;">30</td> </tr> </table> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> $30 + 9 = \boxed{39}$ \downarrow $\boxed{39} - 30 = 9$ </div> <div style="text-align: center;"> $30 - 9 = \boxed{21}$ \downarrow $30 - \boxed{21} = 9$ </div> </div>	30	9	21	9	39		30	
30	9	21	9						
39		30							

Imisebenzi yomfundi ngamunye

Abafundi bafanele nje balinge ukwenza iimbonelo ezilandelako ngokugwala ibha-dayagramu bese babuyelele batlole godu umutjho wenomboro njengokubalisisa okulula kokuthola inomboro engekho:

$$25 - \square = 9 \quad \square - 25 = 9$$

Abafundi bafanele bahlathulule ukucabanga kwabo, isib.” $25 - \square = 9$, Ngingatjhugulula ukubalisisa kube $25 - 9$. Nangikhupha ubu-9 ema-25, ngithola i-16 ngombana ama- $25 - 9 = 16$ kusala ama-20 begodu ama- $20 - 4 = 16$. Okutjho bonyana ama- $25 - \boxed{16} = 9$.”

Ividiyo esekelako

Ukuhlobanisa ukuhlanganisa nokukhupha kwesi-6



<https://youtu.be/OnF8U7aBPOc>

UKUHLOBANISA UKUHLANGANISA NOKUKHUPHA: ISIFUNDO

ESITHOMAKO SE- 7

Umzuzu mu-1 wokukhaliphisa umkhumbulo

- a. Ukuhlanganisa masinya: iinomboro ezinedijithi eli-1 begodu neenomboro ezinamadijithi ama-2 (sebenzisa ezinye iinomboro ezikulu ezizosinikela iimpendulo ezingaphezulu kwe-100 nama-200, isib. $99 + 2$; $99 + 4$; $198 + 4$; $199 + 3$)
- b. Ukukhupha masinya: iinomboro ezinedijithi eli-1 eenomborweni ezinamadijithi ama-2 (sebenzisa iinomboro ezikulu ezingaphezulu kwe-100 nama-200, isib. $101 - 2$; $103 - 4$; $203 - 4$; $201 - 3$)

Ukulandelana komsebenzi

Esifundweni lesi sihlobanisa ukuhlanganisa nokukhupha ukurarulula lula ukubalisisa kokuhlanganisa nokokukhupha eenomborweni ezikulu.

<p>Utijhere: Asisebenziseni ilwazi esikufundileko lokurarulula okhunye kokubalisisa ngeenomboro ezikulu. Ungakwazi ukuthola ubudlelwano phakathi kweenomboro 105, 10, nama-95?</p> <p>Gwala ibha-dayagramu njengobana kutjengisweko.</p> <p>Utijhere: Iinomboro lezi 105, 10 nama-95 ziyahlobana nasihlanganisako nalokha na sikhuphako. Zingathathwa njengomndeni wenomboro.</p> <p>Abafundi baphakamisa ukuhlobana phakathi kwe-105, 10 nama-95 begodu nokuthi inomboro ngayinye ifanele iye kuphi ebha dayagramini.</p> <p>Sebenza ngeempendulo zabafundi njengaphambilini. Rekhoda iimpendulo ezamukelekako ebhodini ngemekholomini amabili. Uzokudinga ukusiza abafundi ngeembonelo zokugcina ezimbili ekholomini ngayinye ngokusebenzisa amafreyimi njengalawa:</p> <p>$105 = \square + \square$; $95 = \square - \square$; $10 = \square - \square$</p> <p>Utijhere: Komunye nomunye umndeni wenomboro singenza imitjho yeenomboro emi-4 yokuhlanganisa nemi-4 yokukhupha. Asiboneni nangabe kukhona esikutjhiyileko.</p> <p>Rekhoda imitjho yeenomboro ye-105, 10 nama-95 etjhiyiweko.</p> <p>Gwala ibha-dayagramu yomraro ngamunye walokhu. Lebula amabha 'Kulu', 'Ncani' begodu</p>	<p>Tlola 105, 10 nama-95 ebhodini.</p> <p>105 10 95</p> <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <tr> <td style="width: 80%; height: 30px;"></td> <td style="width: 20%;"></td> </tr> <tr> <td colspan="2" style="height: 30px;"></td> </tr> </table> <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <tr> <td style="width: 70%; text-align: center;">95</td> <td style="width: 30%; text-align: center;">10</td> </tr> <tr> <td colspan="2" style="text-align: center;">105</td> </tr> </table> <table border="1" style="margin: 10px auto; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">Iimbalo zoku +</th> <th style="width: 50%;">Iimbalo zoku -</th> </tr> </thead> <tbody> <tr> <td>$10 + 95 = 105$</td> <td>$105 - 10 = 95$</td> </tr> <tr> <td>$95 + 10 = 105$</td> <td>$105 - 95 = 10$</td> </tr> <tr> <td>$105 = 95 + 10$</td> <td>$95 = 105 - 10$</td> </tr> <tr> <td>$105 = 10 + 95$</td> <td>$10 = 105 - 95$</td> </tr> </tbody> </table>					95	10	105		Iimbalo zoku +	Iimbalo zoku -	$10 + 95 = 105$	$105 - 10 = 95$	$95 + 10 = 105$	$105 - 95 = 10$	$105 = 95 + 10$	$95 = 105 - 10$	$105 = 10 + 95$	$10 = 105 - 95$
95	10																		
105																			
Iimbalo zoku +	Iimbalo zoku -																		
$10 + 95 = 105$	$105 - 10 = 95$																		
$95 + 10 = 105$	$105 - 95 = 10$																		
$105 = 95 + 10$	$95 = 105 - 10$																		
$105 = 10 + 95$	$10 = 105 - 95$																		

'Ncani'. Thola ibha engekho begodu utlole ipendulo ngebhlogweni.

$$101 - 98 = \square$$

$$\square - 99 = 4$$

$$\square + 2 = 201$$

Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjisi balinge ukwenza iimbonelo ezilandelako ngokuthatha isiquntu bonyana ngiyiphi inomboro eKulu begodu ngiziphi eziNcani, bagwale ibha-dayagramu bese bararulula umraro wenomboro engekho.

$$115 - \square = 90 \quad \square + 3 = 210$$

Abafundi bafanele bahlathulule ukucabanga kwabo.

Umsebenzi wekhaya: Iphepha lokusebenzela lesi-2

Ekupheleni kwesifundo sanamhlanjisi nikela abafundi iphepha lokusebenzela lesi-2.

Akutlhogeki bonyana wabele abafundi isikhathi sokwenza iphepha lokusebenzela leli. Umnqopho kukunikela abafundi umsebenzi otlolwako wokuzijayeza abawenza ngehloko.

Ividiyo esekelako

Ukuhlobanisa ukuhlanganisa nokukhupha kwe-7



<https://youtu.be/vIFAjz8cKMQ>

Igama:

Ukuhlobanisa ukuhlanganisa nokukhupha: Iphepha lokusebenzela lesi-2

1. $72 - 67 = \square$	4. $94 - 88 = \square$				
2. $4 + \square = 303$	5. $302 - 298 = \square$				
3. $\square - 63 = 6$	6. <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 50px; height: 30px;"></td> <td style="width: 150px; text-align: center;">98</td> </tr> <tr> <td colspan="2" style="text-align: center; height: 30px;">103</td> </tr> </table>		98	103	
	98				
103					
$34 + 27 = 61$ $36 + 25 = 61$ $61 + 27 = 88$					
7. $61 - 27 = \square$					
8. $\square + 36 = 61$					
<p>Sebenzisa iinomboro ezintathu ezingenzasi ekubalisiseni okubili okuhlukileko kokukhupha:</p> <p>$78 + 52 = 130$</p>					
9. $\square - \square = \square$					
10. $\square - \square = \square$					

Amanowuthi katitjhere

Lapha ungatlole amanowuthi ngesifundo begodu nangokuthi ngibaphi abafundi abasadinga isizo lamaqhinga ahlukahlukene. Ugenza amanowuthi wananyana ngiziphi ezinye izinto ofuna ukuzethula esifundweni esithomako esilandelako.

UKUHLOBANISA UKUHLANGANISA NOKUKHUPHA: ISIFUNDO ESITHOMAKO SOBU-8

Umzuzu mu-1 wokukhaliphisa umkhumbulo

- a. Ukuhlanganisa masinya: iinomboro ezinedijithi eli-1 neenomboro ezinamadijithi ama-2
- b. Ukukhupha masinya: iinomboro ezinedijithi eli-1 eenomborweni ezinamadijithi ama-2

Ukulandelana komsebenzi

Esifundweni lesi sisebenzisa ukuhlobana phakathi kokuhlanganisa nokukhupha ukurarulula imiraro ngaphandle kwebha dayagramu.

<p>Tlola ukubalisisa okutjengiswe ebhodini. Tjhiya isikhala ngenzasi kokunye nokunye ukubalisisa ukwenzela ukutlola ubudlelwano bokubalisisa ukuhlanganisa nofana ukukhupha.</p> <p>Abafundi bafanele bazame ukucabanga ibha-dayagramu yokubalisisa ngakhunye. Nangabe bayabhalelwa ungagwala ibha-dayagramu ngenzasi kokubalisisa.</p> <p>limbonelo zinikelwe ngenzasi zokobana ungakwenza bunjani ukubalisisa okuthathu zokuthoma.</p>	<p>$\square + 3 = 28$</p> <p>$\square - 37 = 6$</p> <p>$202 - 198 = \square$</p> <p>$2 + \square = 51$</p> <p>$22 - \square = 3$</p>
<p>Utithere: Umsebenzi lo ungafundwa bunje: Yini ehlanganiswa noku-3 ilingane nama-28? Ningakutjhugulula bunjani ukubalisisa lokhu nikwenze kube lula ukufunyana inomboro engekho?</p> <p>Abafundi: $28 - 3$</p> <p>Rekhoda ukubalisisa lokhu ngenzasi kwesekuthomeni.</p> <p>Utithere: Ithini ipendulo?</p> <p>Abafundi: 25</p> <p>Abafundi bangabala ngokuya emuva nangabe abayazi ipendulo (27, 26, 25, ngokunjalo; ipendulo ima-25).</p>	<p>$\square + 3 = 28$</p> <p>$28 - 3 = \square$</p>
<p>Utithere: Umsebenzi lo ungafundwa njengokuthi: Yini esiyikhupha ema-37 kulingane nesi-6? Ningakutjhugulula njani ukubalisisa lokhu kwenze kube lula ukuthola inomboro engekho?</p> <p>Abafundi: $6 + 37$ (nofana $37 + 6$)</p> <p>Rekhoda ukubalisisa lokhu ngaphasi kwezisekuthomeni.</p>	<p>$\square - 37 = 6$</p> <p>$6 + 37 = \square$ nofana $37 + 6 = \square$</p>

<p>Utijhere: Ithini ipendulo? Abafundi: 43 Abafundi bangabala ukuya phambili ukusuka ema-37 (38, 39, 40, 41, 42, 43, ngokunjalo ipendulo izokuba ma-43). Abanye bangabala ngokuayamela etjhumini (37 + 3 = 40 begodu ama- 40 + 3 = 43).</p>	
<p>Utijhere: Umsebenzi lo ufuna bonyana urarulule ama-202 khupha i-198. Ningakutjhugulula bunjani ukubalisisa lokhu nikwenze kube lula ukufunyanana inomboro engekho? Abafundi: $198 + \square = 202$ Rekhoda isibalo ngaphasi kwesisekuthomeni. Utijhere: Ithini ipendulo? Abafundi: 4 Abafundi bangabala ukuya phambili ukusuka e-198 (199, 200, 201, 202 ngokunjalo; ipendulo nguku-4). Abanye bangabala ngokuyamela etjhumini (198 + 2 = 200; 200 + 2 = 202, ngokunjalo ipendulo nguku-4).</p>	<p>$202 - 198 = \square$ $198 + \square = 202$</p>

Imisebenzi yomfundi ngamunye

Abafundi bafanele kwanjese basebenzise amaqhinga wokutjhugulula ukubalisisa kokuhlanganisa ukuya ekukhupheni, begodu nokubalisisa ngokukhupha ukuya ekuhlanganiseni, nangabe ukutjhugulula lokhu kwenza kube lula ukuthola inomboro engekho.

$$4 + \square = 105$$

$$\square + 5 = 69$$

$$\square - 29 = 2$$

$$41 - 36 = \square$$

Ividiyo esekelako

Ukuhlobanisa ukuhlanganisa nokukhupha kobu-8



<https://youtu.be/nYoOex4bibl>

Igama:					
Ukuhlobanisa ukuhlanganisa nokukhupha: Ngemuva kokuhlola					
INGCENYE YOKU-I	Imizuzu emi-2 yenzelwe ikhasi leli				
1. $76 + \square = 82$	Zalisa i-16, 4 nama-20 emitjhweni yeenomboro engenzasi (11 - 14) <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">16</td> <td style="padding: 5px;">4</td> </tr> <tr> <td colspan="2" style="text-align: center; padding: 5px;">20</td> </tr> </table>	16	4	20	
16	4				
20					
2. $42 - 4 = \square$	11. $\square - 4 = \square$				
3. $86 + 5 = \square$	12. $\square + 4 = \square$				
4. $17 + \square = 23$	13. $\square - \square = 4$				
5. $199 + \square = 201$	14. $4 + \square = \square$				
Zalisa iinomboro ezintathu lezi ngemabhokisini: 11 - 9 = 2	15. $99 + \square = 102$				
6. <table border="1" style="width: 100%; height: 40px;"> <tr> <td style="width: 20%; height: 30px;">\square</td> <td style="width: 60%;"></td> <td style="width: 20%; height: 30px;">\square</td> </tr> </table>	\square		\square	16. $21 - \square = 19$	
\square		\square			
7. <table border="1" style="width: 100%; height: 40px;"> <tr> <td style="width: 60%;"></td> <td style="width: 40%; height: 30px;">\square</td> </tr> </table>		\square	17. $37 + 6 = \square$		
	\square				
8. $302 - 5 = \square$	18. $27 + \square = 35$				
9. $29 + \square = 34$	19. $34 - \square = 29$				
10. $91 - \square = 89$	20. $75 + \square = 82$				
Inani seliloke: 20					

Ukuhlobanisa ukuhlanganisa nokukhupha: Ngemuva kokuhlolwa

INGCENYE YESI-2

Imizuzu emi-3 yenzelwe ikhasi leli

1. $73 - 68 = \square$

2. $6 + \square = 303$

3. $\square - 82 = 5$

4. $82 - 75 = \square$

5. $201 - 199 = \square$

6.

\square	99
102	

7. $42 + 15 = 57$ $27 + 15 = 42$
 $42 - 15 = \square$

8. $42 + 24 = 66$ $24 + 18 = 42$
 $\square + 24 = 42$

Sebenzisa iinomboro ezintathu ezingenzasi ukubalisisa ukukhupha okubili okuhlukileko:

$67 + 53 = 120$

9. $\square - \square = \square$

10. $\square - \square = \square$

Inani seliloke: 10

Ukweyamela etjhumini: Imemorandamu

Ngaphambi kokuhlolwa	Iphepha lokusebenzela loku-1	Iphepha lokusebenzela lesi-2	Ngemuva kokuhlolwa
INGCENYE YOKUTHOMA	1. 10 2. 10	1. 53 2. 48	INGCENYE YOKUTHOMA
1. 10	3. 3	3. 8	1. 10
2. 10	4. 7	4. 8	2. 10
3. 3	5. 9	5. 1	3. 3
4. 2	6. 10	6. 3	4. 2
5. 8	7. 5	7. 29	5. 8
6. 10	8. 2	8. 7	6. 10
7. 5	9. 10	9. 3; 44	7. 5
8. 6	10. 6	10. 53; 5	8. 7
9. 10	11. 2		9. 10
10. 0	12. 5		10. 0
11. 56	13. 56		11. 57
12. 63	14. 54		12. 63
13. 33	15. 22		13. 33
14. 48	16. 1		14. 48
15. 50	17. 26		15. 50
16. 127	18. 44		16. 127
17. 30	19. 56		17. 30
18. 43	20. 53		18. 42
19. 3	21. 40		19. 3
20. 7	22. 20		20. 7
INGCENYE YESIBILI	23. 6 24. 33		INGCENYE YESIBILI
1. 64			1. 74
2. 79			2. 78
3. 86			3. 86
4. 6			4. 6
5. 75			5. 75
6. 2			6. 2
7. 6			7. 6
8. 54			8. 54
9. 8			9. 8
10. 38			10. 38

Amaqhingana wokubala ngokweqa: Imemorandamu

Ngaphambi kokuhlolwa	Iphepha lokusebenzela loku-1	Iphepha lokusebenzela lesi-2	Ngemuva kokuhlolwa
INGCENYE YOKUTHOMA	1. 65	1. 76	INGCENYE YOKUTHOMA
1. 54	2. 33	2. 53	1. 52
2. 39	3. 47	3. 39	2. 39
3. 36	4. 3	4. 53	3. 36
4. 47	5. 60	5. 24	4. 47
5. 17	6. 16	6. 15	5. 17
6. 53	7. 32	7. 20	6. 53
7. 44	8. 59	8. 30	7. 44
8. 4	9. 86	9. 20	8. 3
9. 31	10. 40	10. 29	9. 31
10. 11	11. 64		10. 11
11. 60	12. 46		11. 50
12. 48	13. 46		12. 48
13. 54	14. 60		13. 54
14. 46	15. 53		14. 46
15. 40	16. 63		15. 40
16. 39	17. 54		16. 39
17. 20	18. 75		17. 20
18. 89	19. 30		18. 84
19. 40	20. 37		19. 40
20. 46			20. 46
INGCENYE YESIBILI			INGCENYE YESIBILI
1. 59			1. 69
2. 60			2. 60
3. 30			3. 30
4. 20			4. 20
5. 83			5. 83
6. 59			6. 59
7. 22			7. 22
8. 15			8. 15
9. 30			9. 30
10. 25			10. 25

Ukubuyelela kabili nokuhafula: Imemorandamu

Ngaphambi kokuhlolwa	Isifundo esithomako soku-1	Iphepha lokusebenzela loku-1	Iphepha lokusebenzela lesi-2	Ngemuva kokuhlolwa
INGCENYE YOKUTHOMA	1.uku-4 nakabuyabuyelelwa kabili	1. 12 2. 6	1. 64 2. 52	INGCENYE YOKUTHOMA
1. 12	wenza ubu-8	3. 18	3. 21	1. 14
2. 6	linqhema ezimbili zaboku-	4. 14	4. 55	2. 7
3. 18	4 zenza ubu-8	5. 8	5. 46	3. 18
4. 16	Kubili nakubuyabuyelelwa	6. 9	6. 18	4. 16
5. 6	ka-4 kwenza ubu-8	7. 20	7. 62	5. 7
6. 8	$4 \times 2 = 8$	8. 3	8. 31	6. 8
7. 20		9. 6	9. 63	7. 20
8. 7	2. Ihafu yobu-8 nguku- 4	10. 7	10. 2	8. 6
9. 5	Ubu-8 nabuhlukaniswa	11. 16	11. 88	9. 5
10. 9	ka-2 benza ku-4	12. 22	12. 76	10. 9
11. 30	8 nakabiwa hlangana	13. 16	13. 43	11. 28
12. 14	kwababili wenza ku-4	14. 60	14. 52	12. 14
13. 14	$8 \div 2 = 4$	15. 100	15. 78	13. 14
14. 200		16. 7	16. 24	14. 200
15. 40	3. I-9 nalibuyabuyelelwa	17. 20	17. 98	15. 40
16. 80	kabili kwenza i-18	18. 5	18. 49	16. 80
17. 25	linqhema ezimbili ze-9	19. 35	19. 97	17. 25
18. 8	zenza i-18	20. 140	20. 2	18. 9
19. 15	Kubili akubuyabuyelelwa nge-9 kwenza i-18			19. 15
20. 120	$9 \times 2 = 18$			20. 120
INGCENYE YESIBILI	4. Ihafu yama-20 yi-10			INGCENYE YESIBILI
1. 84	Ama-20 nakahlukaniswa			1. 84
2. 72	ngoku-2 alingana ne-10			2. 72
3. 32	Ama-20 nakabiwa			3. 32
4. 51	ngaba-2 alingana ne-10			4. 51
5. 94	$20 \div 2 = 10$			5. 94
6. 19				6. 19
7. 104	5. Ukukhetha komfundi			7. 104
8. 39	6. Ukukhetha komfundi			8. 39
9. 77				9. 77
10. 2				10. 2

Ukutjhideza etjhumini nokulungisa: Imemoranda

Ngaphambi kokuhlolwa	IPhepha lokusebenzela loku-1	IPhepha lokusebenzela lesi-2	Ngemuva kokuhlolwa
INGCENYE YOKUTHOMA	1. 86	1. 85	INGCENYE YOKUTHOMA
1. 53	2. 47	2. 16	1. 54
2. 39	3. 29	3. 82	2. 39
3. 47	4. 69	4. 226	3. 47
4. 49	5. 97	5. 144	4. 49
5. 117	6. 40	6. 9	5. 148
6. 83	7. 2	7. 2	6. 83
7. 30	8. 1	8. 30	7. 30
8. 3	9. 400	9. 40	8. 3
9. 3	10. inambalayini yokuthoma	10. 80 – 40 + 1	9. 3
10. 2	11. 18		10. 2
11. 71	12. 31		11. 31
12. 78	13. 56		12. 78
13. 41	14. 165		13. 41
14. 175	15. 40		14. 175
15. 37	16. 20		15. 37
16. 50	17. 2		16. 50
17. 1	18. 1		17. 1
18. 100	19. 3		18. 100
19. 200	20. inambalayini yesibili		19. 200
20. 2			20. 2
INGCENYE YESIBILI			INGCENYE YESIBILI
1. 63			1. 53
2. 45			2. 25
3. 125			3. 125
4. 135			4. 135
5. 294			5. 294
6. 9			6. 9
7. 2			7. 2
8. 30			8. 30
9. 40			9. 40
10. 80 – 60 + 1			10. 60 – 30 + 1

Ukuhlela kabutjha: Imemorandamu

Ngaphambi kokuhlolwa	IPhepha lokusebenzela loku-1	IPhepha lokusebenzela lesi-2	Ngemuva kokuhlolwa
INGCENYE YOKUTHOMA 1. 7 noku-3 2. 4 nesi-6 3. 4 4. 20 5. 30 nama-70 6. 51 nama- 49 7. 12 8. 17 9. 9 10. 86 11. 114 12. 10 13. 8 ne-12 14. 4 ne-16 15. 100 16. 9 17. 18 ne-12 18. 14 ne-16 19. 31 20. 40 INGCENYE YESIBILI 1. 104 2. 78 3. 300 4. 106 5. 178 6. 70 7. 6 8. 58 9. 3 10. 88 ne-12	1. 8 noku-2 2. 4 nesi-6 3. 2 4. 20 5. 36 nama-64 6. 45 nama-55 7. 12 8. 14 9. 6 10. 38 11. 157 12. 12 13. 9 nama-21 14. 17 ne-13 15. 120 16. 8 17. 14 nesi-6 18. 12 nobu-8 19. 13 20. 40	1. 102 2. 57 3. 300 4. 83 5. 196 6. 90 7. 3 8. 9 9. 37 10. 4 11. 74 nama-26 12. 2 noku-5	INGCENYE YOKUTHOMA 1. 7 noku-3 2. 4 nesi-6 3. 3 4. 20 5. 30 nama-70 6. 51 nama-49 7. 12 8. 17 9. 9 10. 86 11.132 12. 10 13. 8 ne-12 14. 4 ne-16 15. 100 16. 9 17. 18 ne-12 18. 14 ne-16 19. 31 20. 40 INGCENYE YESIBILI 1. 105 2. 98 3. 300 4. 106 5. 178 6. 70 7. 8 8. 58 9. 3 10. 36 ne-14

Ukuhlobanisa ukuhlanganisa nokukhupha: Imemorandamu

Ngaphambi kokuhlolwa	IPhepha lokusebenzela loku-1	IPhepha lokusebenzela lesi-2	Ngemuva kokuhlolwa
1. 4	1. 5	1. 5	1. 6
2. 38	2. 48	2. 299	2. 38
3. 91	3. 85	3. 69	3. 91
4. 6	4. 8	4. 6	4. 6
5. 2	5. 3	5. 4	5. 2
6. 2 ne-9	6. 5 nobu-8 (hlela ngokungiko)	6. 5	6. 2 ne-9
7. 11	begodu ne-13	7. 34	7. 11
8. 297	ebhlogweni	8. 25	8. 297
9. 5	elingenzasi	9. $130 - 52 = 78^*$	9. 5
10. 2	7. 198	10. $130 - 78 = 52^*$	10. 2
11. $20 - 5 = 15$	8. 6	*limpendulo	11. $20 - 4 = 16$
12. $15 + 5 = 20$	9. 3	zingatjhuguluka.	12. $16 + 4 = 20$
13. $20 - 15 = 5$	10. 5		13. $20 - 16 = 4$
14. $5 + 15 = 20$	11. $20 - 3 = 17$		14. $4 + 16 = 20$
15. 3	12. $17 + 3 = 20$		15. 3
16. 2	13. $20 - 17 = 3$		16. 2
17. 43	14. $3 + 17 = 20$		17. 43
18. 8	15. 4		18. 8
19. 5	16. 3		19. 5
20. 7	17. 54		20. 7
INGCENYE	18. 8		INGCENYE
YESIBILI	19. 5		YESIBILI
1. 4	20. 7		1. 5
2. 398			2. 297
3. 87			3. 87
4. 7			4. 7
5. 2			5. 2
6. 3			6. 3
7. 27			7. 27
8. 18			8. 18
9. $120 - 37 = 83^*$			9. $120 - 53 = 67^*$
10. $120 - 83 = 37^*$			10. $120 - 67 = 53^*$
*limpendulo			*limpendulo
zingatjhuguluka.			zingatjhuguluka.

**Ukuhlobanisa ukuhlanganisa nokukhupha: Isifundo esithomako soku-1:
Umsebenzi womfundi ngamunye**

$3 + 6 = 9 \checkmark$	$6 - 3 = 9 \times$
$9 = 6 + 3 \checkmark$	$9 - 3 = 6 \checkmark$
$6 + 9 = 3 \times$	$3 = 9 - 6 \checkmark$
$6 + 3 = 9 \checkmark$	$9 - 6 = 3 \checkmark$
$3 + 9 = 6 \times$	$3 - 6 = 9 \times$

Ukuhlobanisa ukuhlanganisa nokukhupha: Isifundo esithomako sesi-3

Tlola imindeni yeenomboro ezilandelako ebha-dayagramini ekungiyi engenzasi. Bese utlola imitjho yeenomboro zokuhlanganisa nezokukhupha zomndeni wenomboro ngamunye.

$5 + 5 = 10$ $3 + 4 = 7$ $11 + 1 = 12$ $2 + 7 = 9$

<table border="1"> <tr> <td>2</td> <td>7</td> </tr> <tr> <td colspan="2">9</td> </tr> </table>	2	7	9		<table border="1"> <tr> <td>11</td> <td>1</td> </tr> <tr> <td colspan="2">12</td> </tr> </table>	11	1	12		<table border="1"> <tr> <td>3</td> <td>4</td> </tr> <tr> <td colspan="2">7</td> </tr> </table>	3	4	7		<table border="1"> <tr> <td>5</td> <td>5</td> </tr> <tr> <td colspan="2">10</td> </tr> </table>	5	5	10	
2	7																		
9																			
11	1																		
12																			
3	4																		
7																			
5	5																		
10																			
<p>Ukuhlanganisa:</p> <p>$2 + 7 = 9$</p> <p>$7 + 2 = 9$</p> <p>$9 = 2 + 7$</p> <p>$9 = 7 + 2$</p> <p>Ukukhupha:</p> <p>$9 - 2 = 7$</p> <p>$9 - 7 = 2$</p> <p>$7 = 9 - 2$</p> <p>$2 = 9 - 7$</p>	<p>Ukuhlanganisa:</p> <p>$11 + 1 = 12$</p> <p>$1 + 11 = 12$</p> <p>$12 = 1 + 11$</p> <p>$12 = 11 + 1$</p> <p>Ukukhupha:</p> <p>$12 - 1 = 11$</p> <p>$12 - 11 = 1$</p> <p>$11 = 12 - 1$</p> <p>$1 = 12 - 11$</p>	<p>Ukuhlanganisa:</p> <p>$3 + 4 = 7$</p> <p>$4 + 3 = 7$</p> <p>$7 = 3 + 4$</p> <p>$7 = 4 + 3$</p> <p>Ukukhupha:</p> <p>$7 - 4 = 3$</p> <p>$7 - 3 = 4$</p> <p>$4 = 7 - 3$</p> <p>$3 = 7 - 4$</p>	<p>Ukuhlanganisa:</p> <p>$5 + 5 = 10$</p> <p>$10 = 5 + 5$</p> <p>Ukukhupha:</p> <p>$10 - 5 = 5$</p> <p>$5 = 10 - 5$</p>																

