



## **Sproti 2a**

### **Verkefnablöð til ljósritunar**

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Heiti á frummálinu: Multi Kopiperm 1-4  
Hönnun og útlit: Børre Holth  
Kápuhönnun: Hanne Dahl

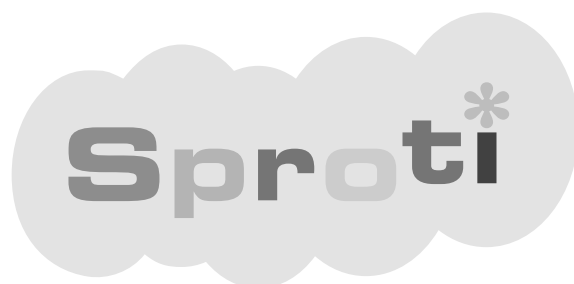
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Yfirlestur: Þórdís Guðjónsdóttir

Öll réttindi áskilin  
1.útgáfa 2009  
Námsgagnastofnun  
Reykjavík

Umbrot: Námsgagnastofnun

Björnar Alseth • Gunnar Nordberg • Henrik Kirkegaard • Mona Røsseland



**2a**

**VERKEFNABLÖÐ**



**NÁMSGAGNASTOFNUN**

# EFNISYFIRLIT

Yfirlit efnisþátta á verkefnablöðum til ljósritunar  
fyrir Sprotu 2a

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Lausnir

## Formáli

Velkomin í SPROTA!

Við sem höfum samið námsefnið SPROTA teljum að stærðfræði sé mikilvæg fyrir alla. Þjóðfélagið hefur þörf fyrir fólk með stærðfræðilega færni og það skiptir miklu máli að hver og einn geti haft gagn og gaman af stærðfræði. Því er brýnt að nemendum finnist skemmtilegt og áhugavekjandi að fást við þessa námsgrein. Þeir þurfa að öðlast víðtæka reynslu í náminu og upplifa hvernig stærðfræði kemur þeim við – einnig eftir að skóladegi lýkur. Þeir þurfa að ná valdi á undirstöðufærni sem nýtist þeim í áframhaldandi námi. Loks þurfa nemendur að þróa með sér áhuga á stærðfræði og jákvæð viðhorf sem vekja hjá þeim löngun til að halda áfram að læra þessa námsgrein.

Það er ósk okkar að við getum með SPROTA veitt kennurum þá hjálp sem þeir þurfa á að halda til að uppfylla þessar kröfur. Námsefnið SPROTI er byggt á fjölbreytilegum kennsluaðferðum þar sem áhersla er lögð á fagleg sjónarmið. Námsefnið er sveigjanlegt þannig að ólíkir kennarar geta fundið þær kennsluaðferðir sem henta hverjum og einum. Fyrir nemendur þýðir þetta að þeir kynnast stærðfræði í allri sinni breidd. Þeir reikna í huganum, skrifa á blað og nota alls kyns hjálpargögn. Þeir mæla, reikna út, teikna myndir og mynstur, fara í leiki, rannsaka og leysa þrautir. Þeir nota einnig stærðfræði þegar þeir hafa samskipti sín á milli, lesa dagblöð og útskýra eitthvað eða rökstyðja.

Þessi verkefnablöð eru ætluð til ljósritunar og eru viðbót við nemendabók og kennarabók SPROTA 2. Vísað er til þessara verkefna í kennarabókinni. Með því að fylgja kennarabókinni fléttast verkefnin og þrautirnar inn í kennsluna þar sem það hentar frá faglegu sjónarmiði. Þar að auki má nota verkefnin við önnur tækifæri, t.d. til að rifja upp eða kafa dýpra í námsefnið. Yfirlit yfir efnið er fremst í verkefnaheftinu þannig að auðvelt er að finna verkefnin sem nota skal hverju sinni.

Við óskum ykkur góðs gengis í kennslunni!

Björnar Alseth  
Henrik Kirkegaard  
Gunnar Nordberg  
Mona Røsseland

# YFIRLIT EFNISÞÁTTA Á VERKEFNABLÖÐUM TIL LJÓSRITUNAR FYRIR SPROTA 2A

## Efnisþættir

## Blaðsíðutal verkefna

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### Tölur

Tölutákn og fjöldi	33–43, 49, 51, 52
Talnagildi	50
Talnalínur	
Samlagning/Frádráttur	44, 45
Talnamynstur	
Námundun	
Mynt, seðlar, talnaspjöld	

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### Rúmfræði

Mynstur	
Rúmfræðileg form	46–48
Speglun/Samhverfa	
Hliðrun	
Horn	
Hnitakerfi	

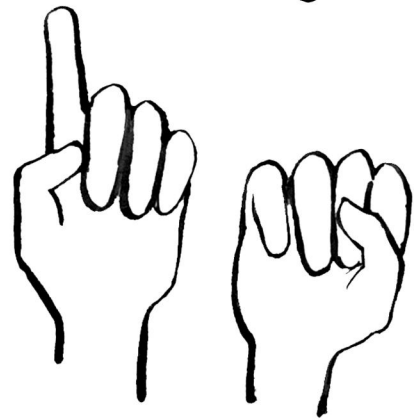
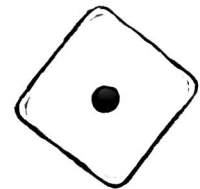
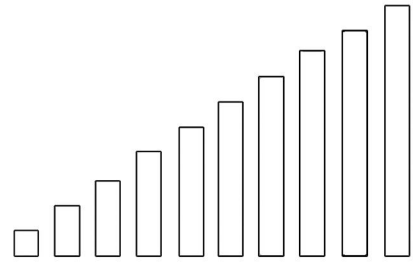
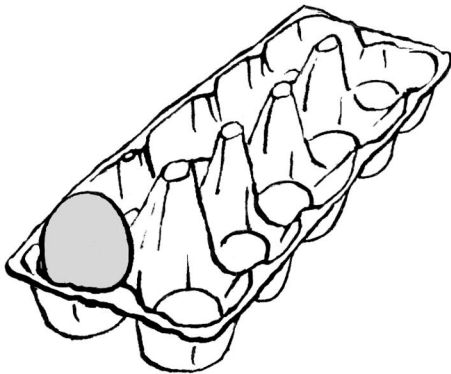
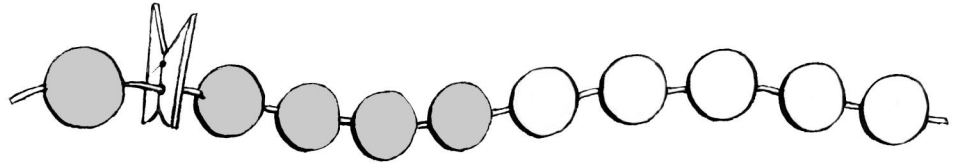
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### Spil

Skífur	
Samlagning/Frádráttur	43
Margföldun/Deiling	

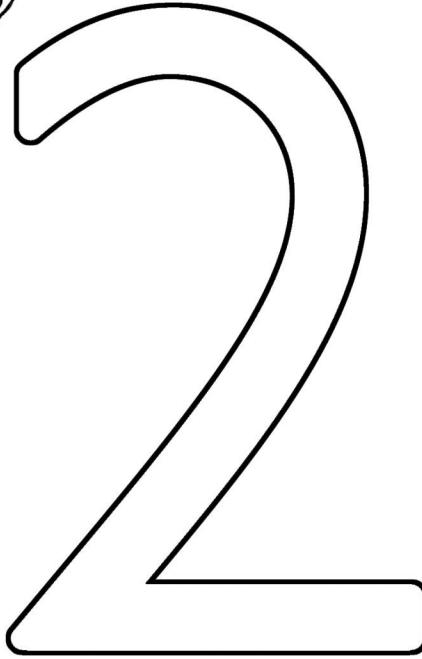
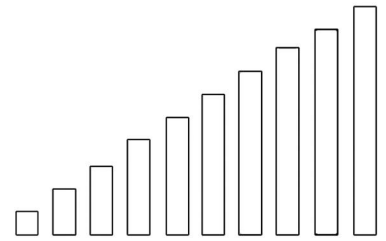
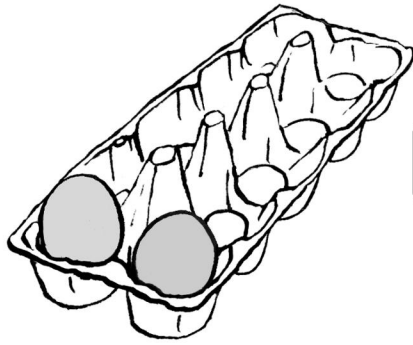
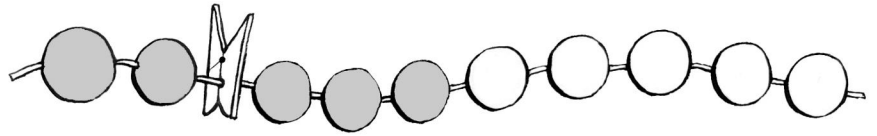
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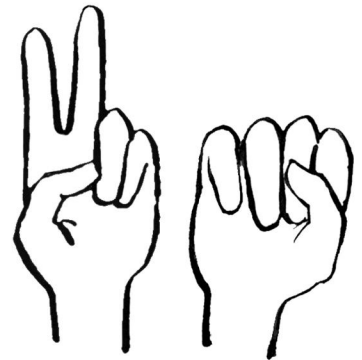
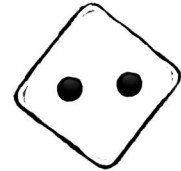


EINN

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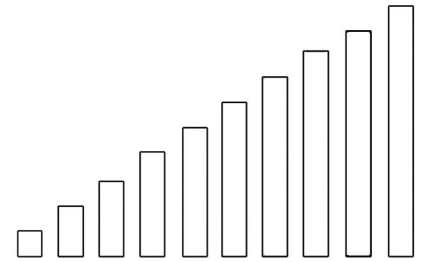
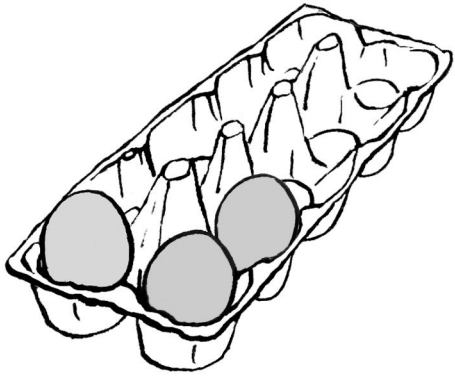
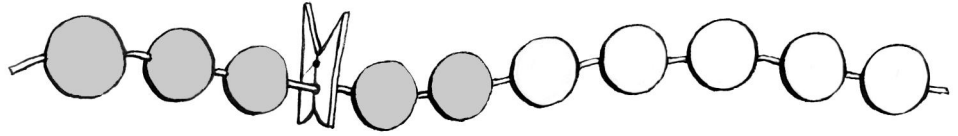
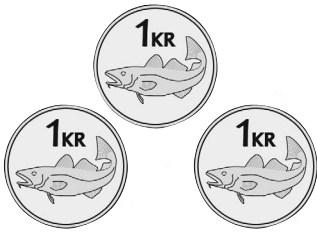


TVEIR

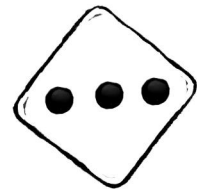




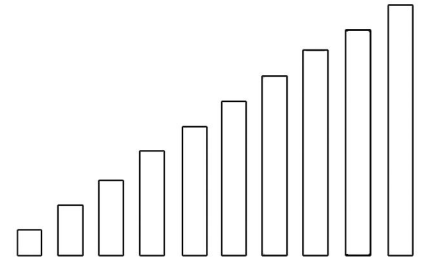
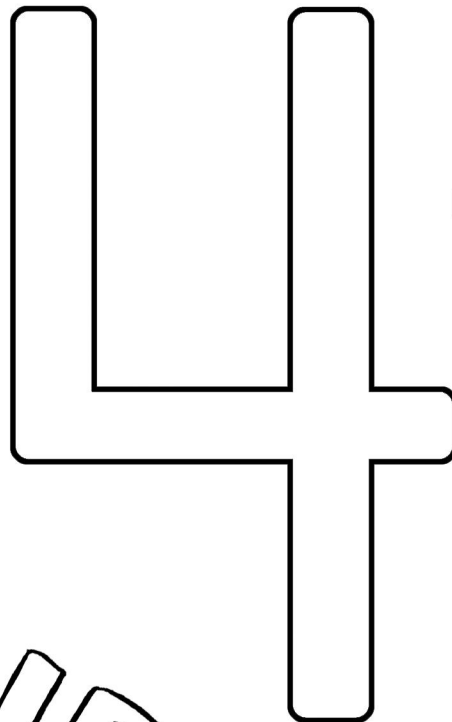
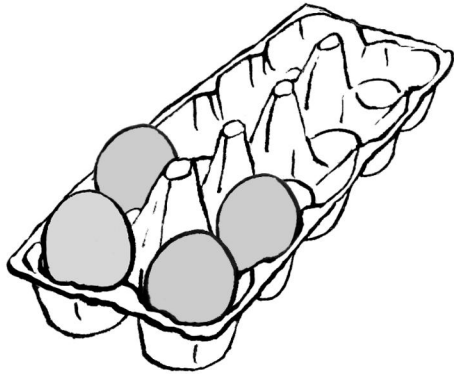
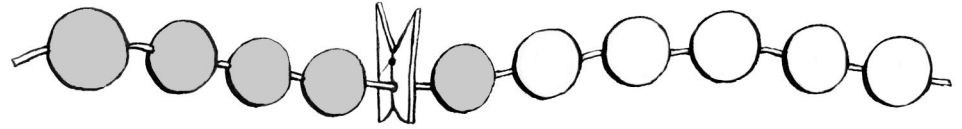
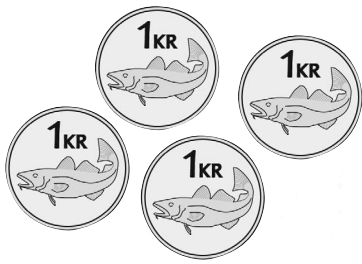
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ÞRÍR



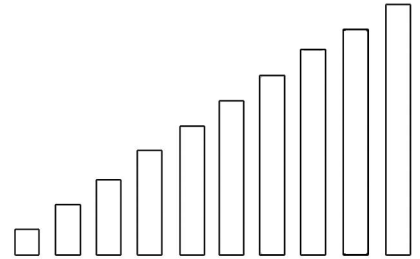
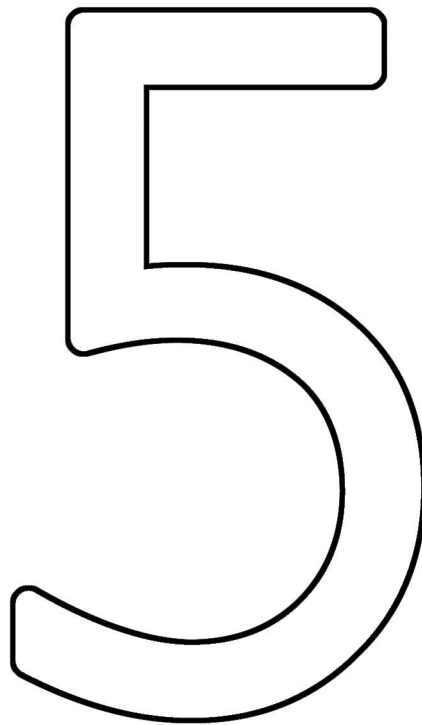
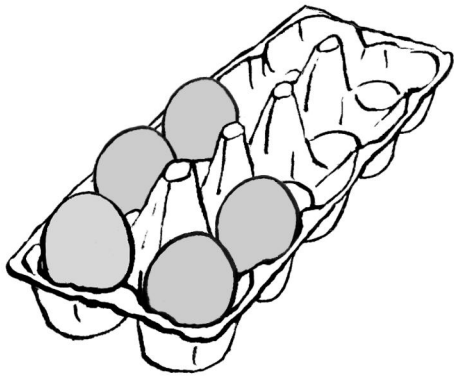
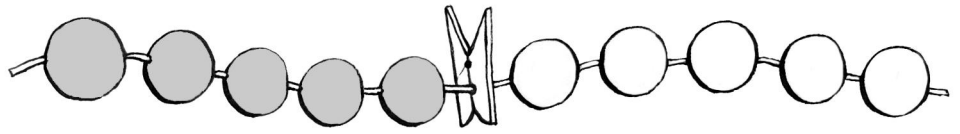
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FJÓRIR



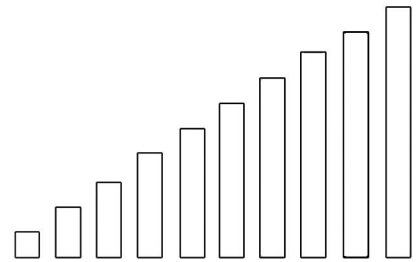
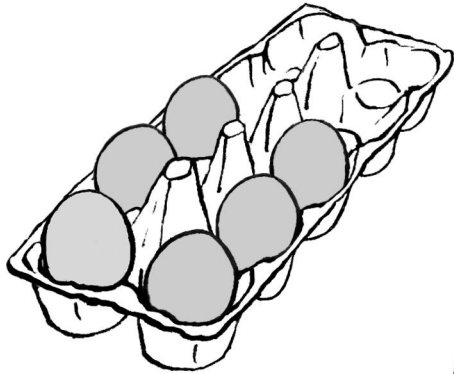
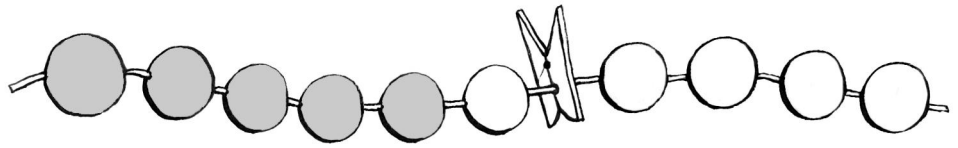
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FIMM



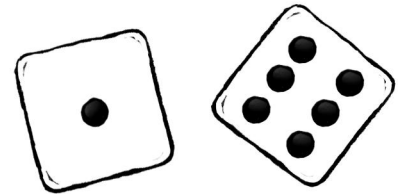
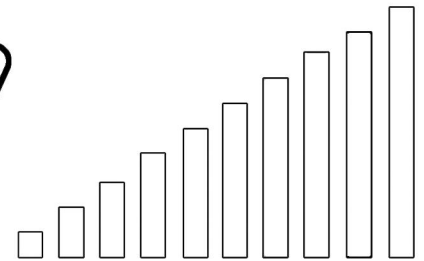
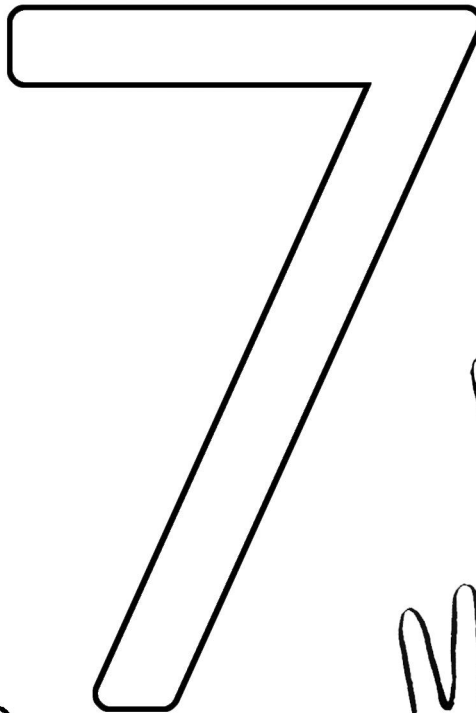
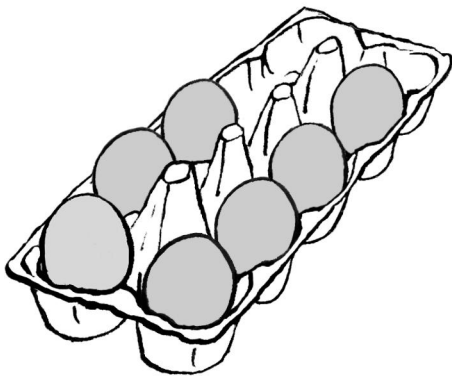
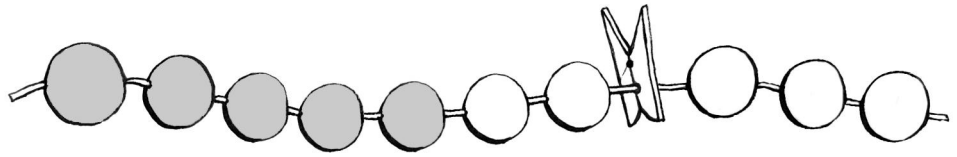
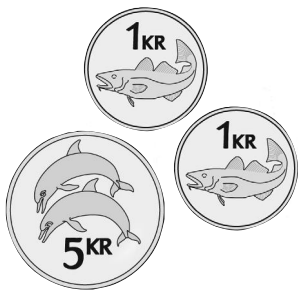
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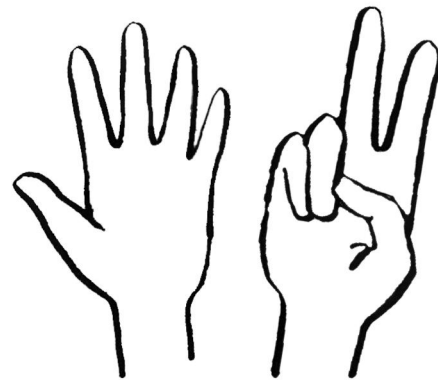
SEX



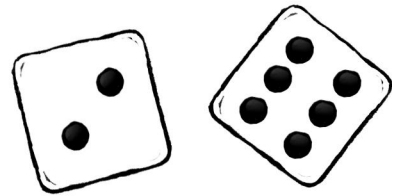
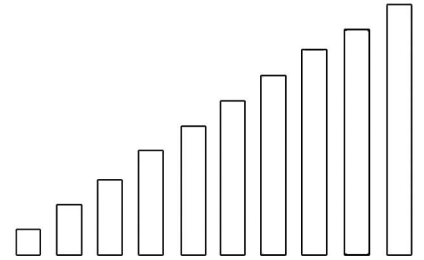
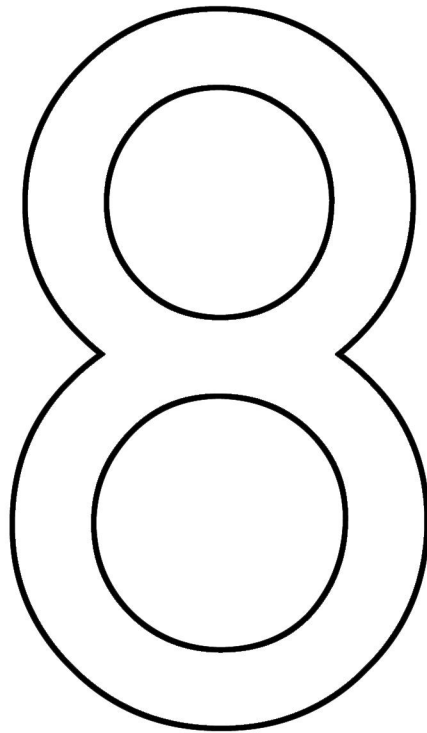
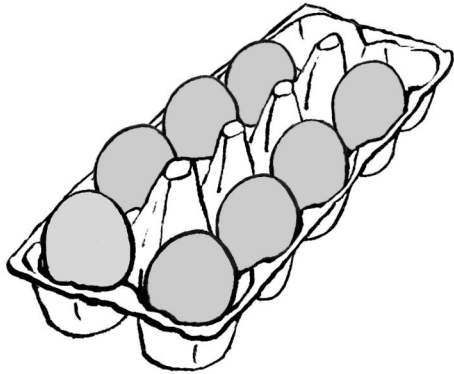
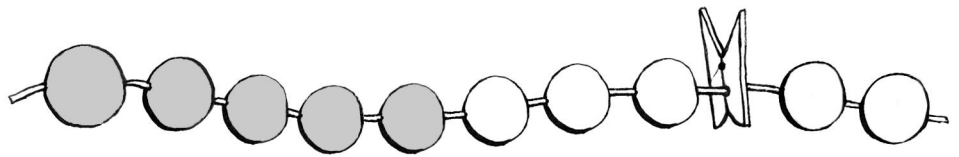
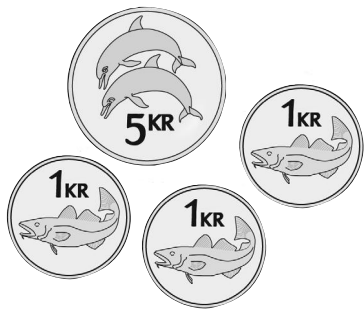
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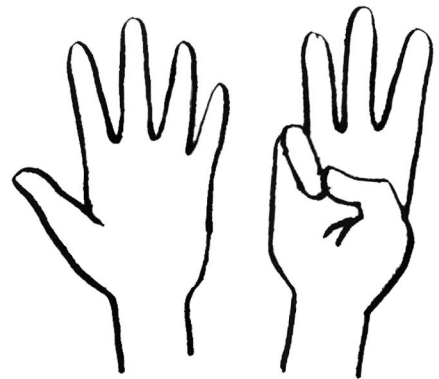
Sjö



# TALAN 8



ÁTTA

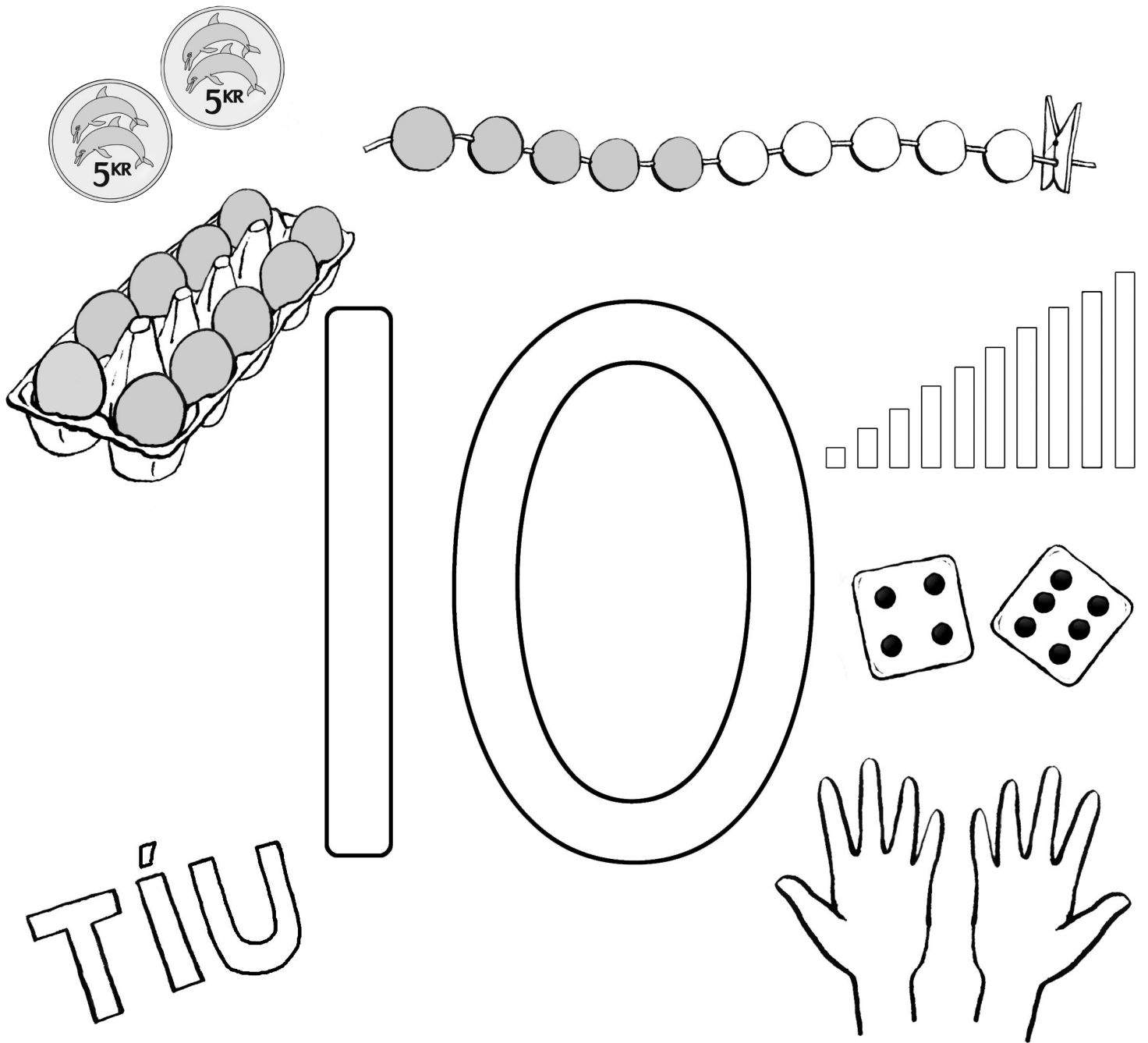


# TALAN 9



NÍU

# TALAN 10



TÍU



# TALNAKAPPHLAUP

2	3	4	5	6	7	8	9	10	11	12

### BÚNAÐUR

Tveir teningar, spilaborð og litblýantar.

### LEIKREGLUR

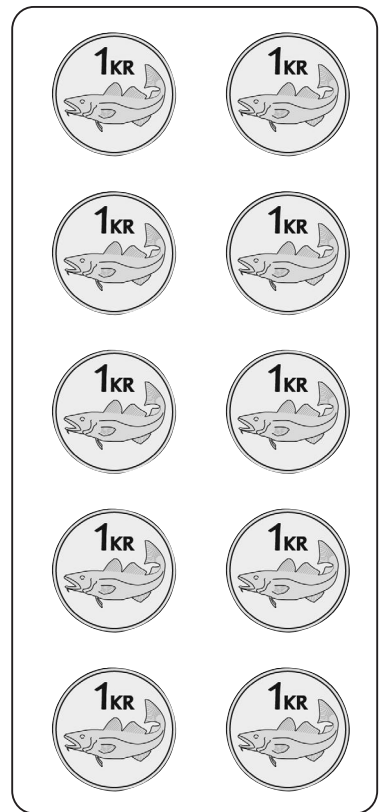
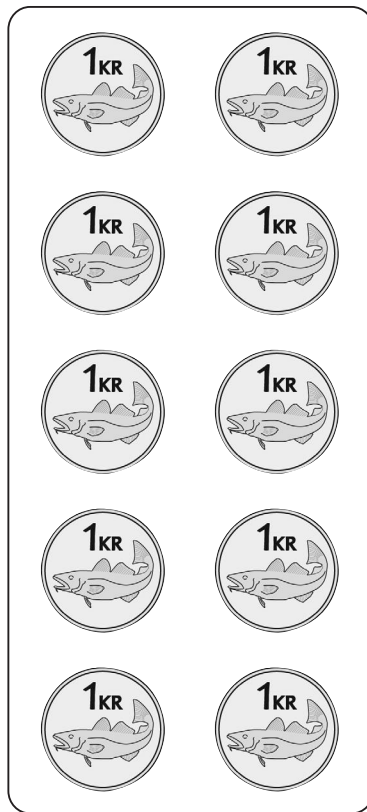
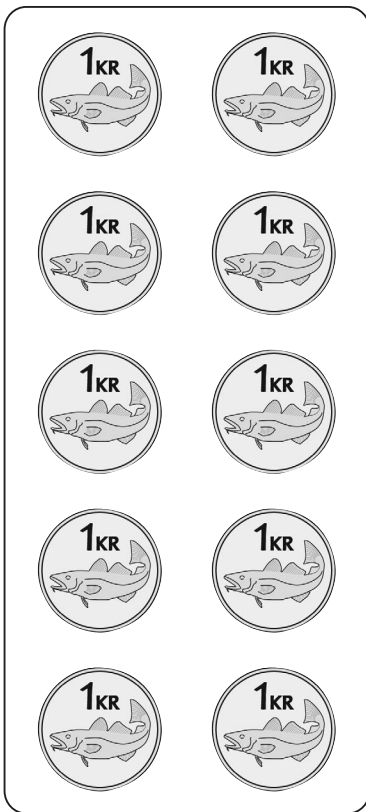
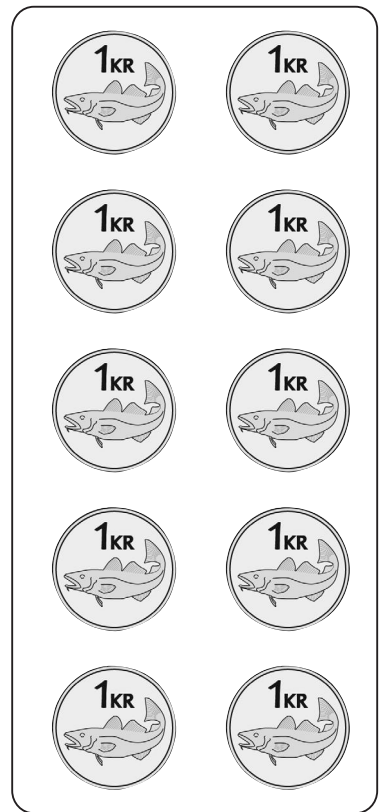
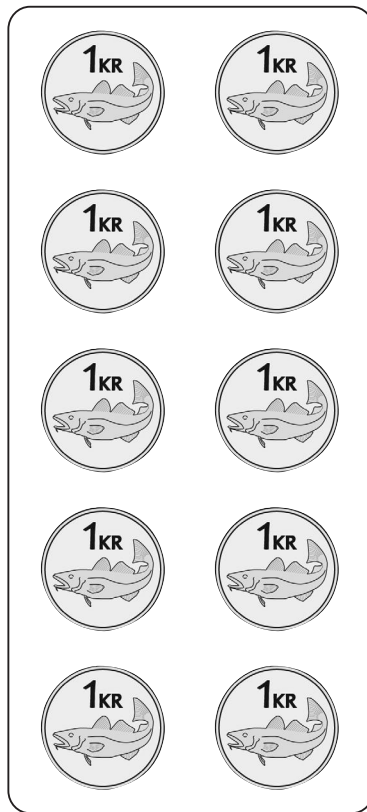
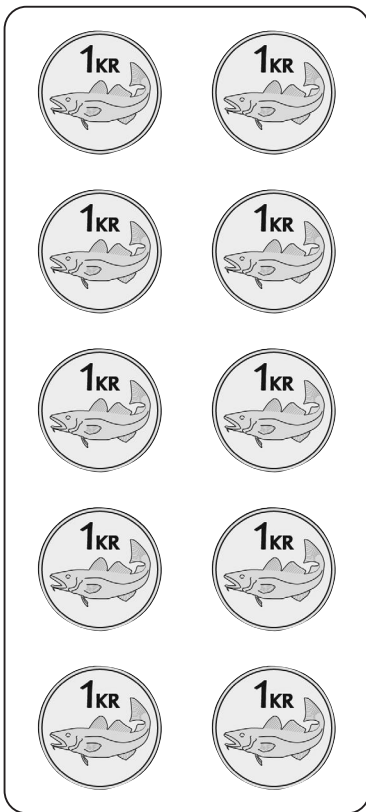
Spilið er fyrir tvo eða þrjá leikmenn. Leikmenn velja til skiptis tölur á spilaborðinu þar til búið er að velja allar tölurnar. Hver leikmaður velur sér lit og litar tölurnar sínar í þeim lit. Leikmenn kasta til skiptis tveimur teningum og leggja saman það sem upp kemur á teningunum. Sá sem á töluna, sem summan segir til um, litar einn reit í viðkomandi súlu. Sá vinnur sem á súluna sem fyllist fyrst.

# TALNAMYNSTUR I

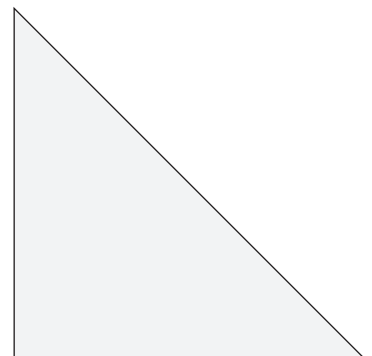
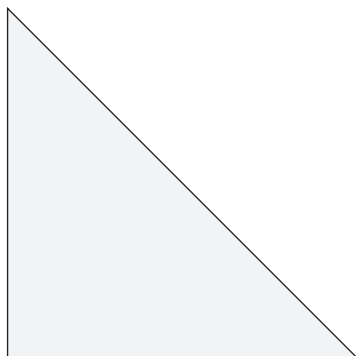
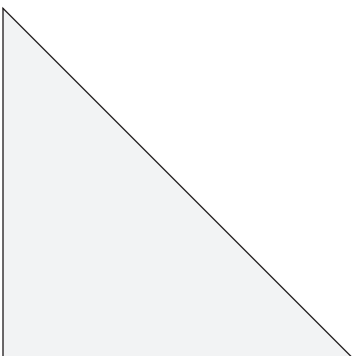
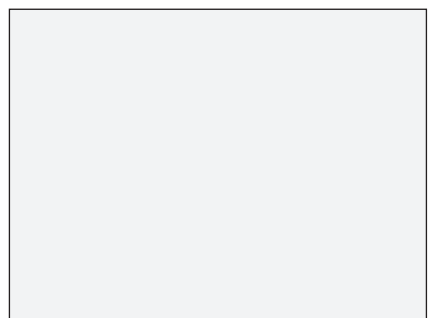
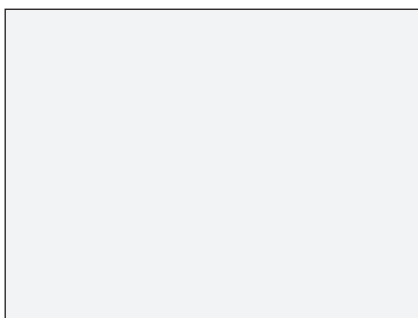
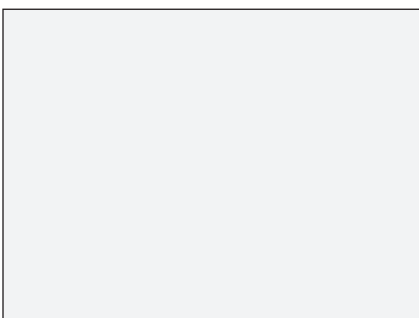
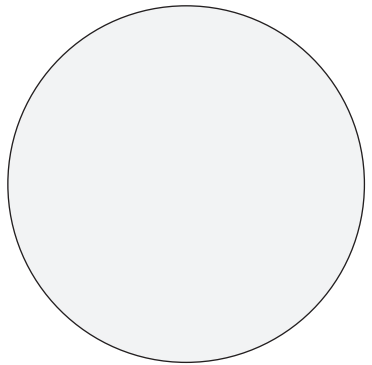
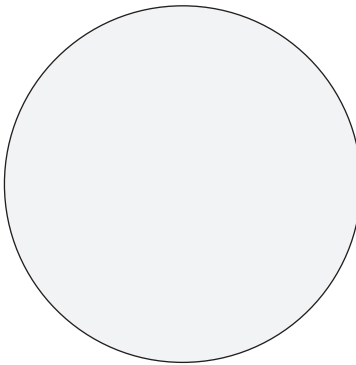
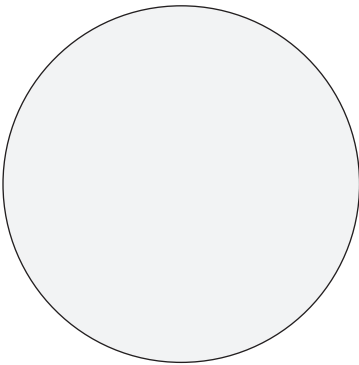
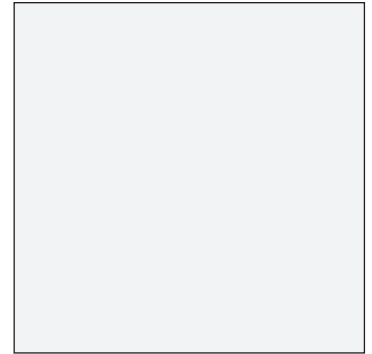
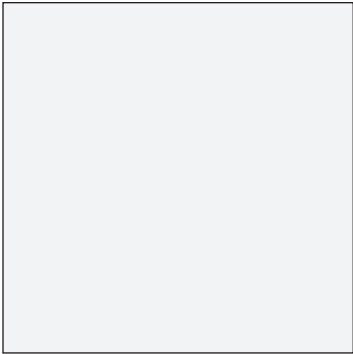
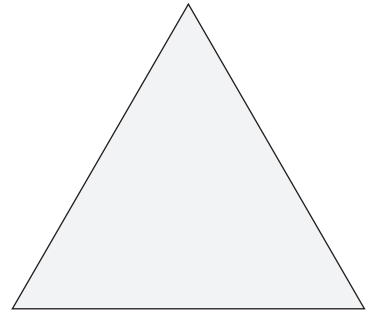
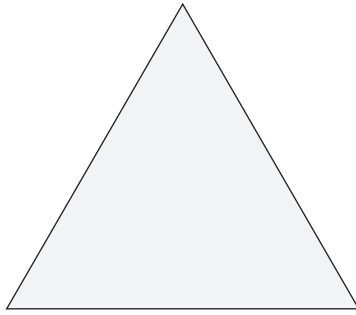
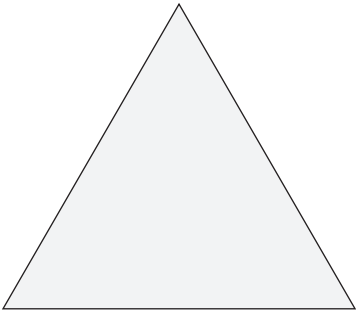
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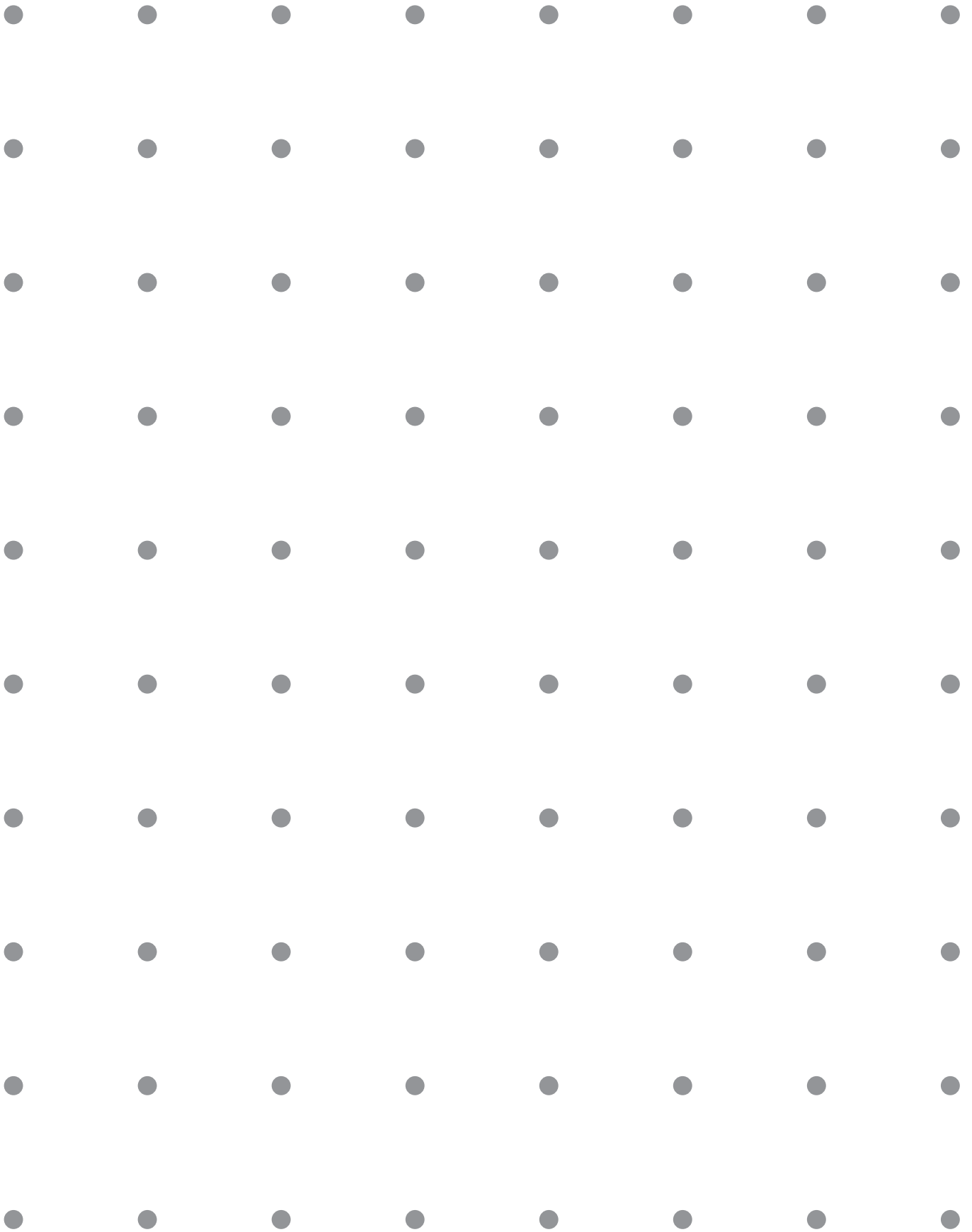
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# TUGPLÖTUR

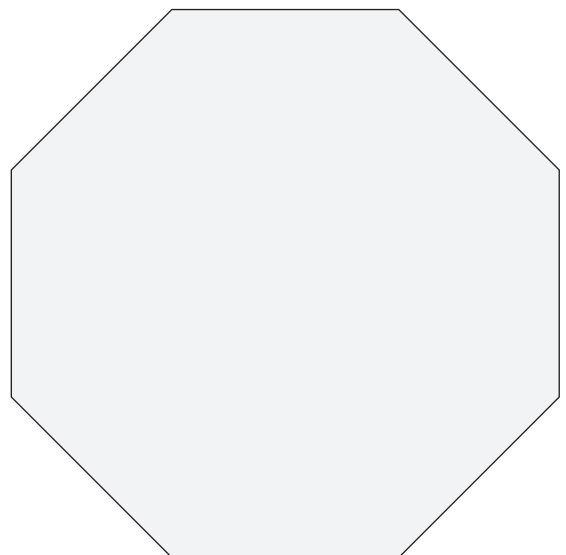
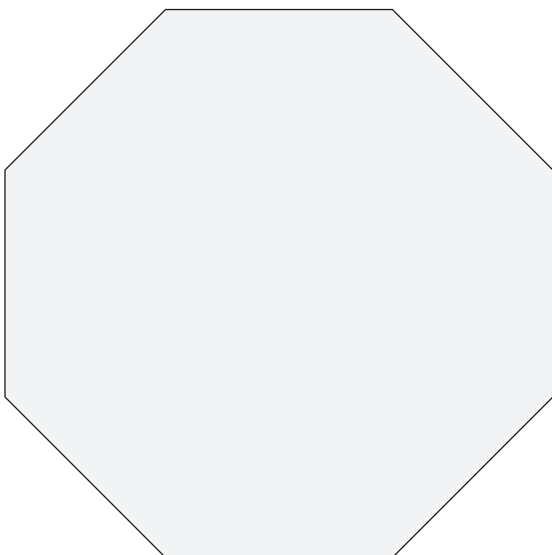
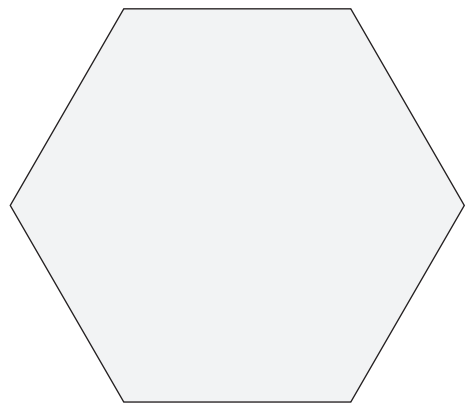
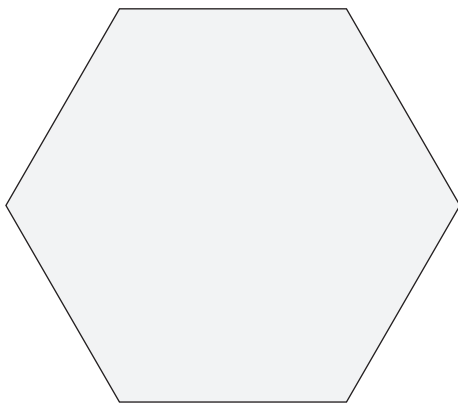
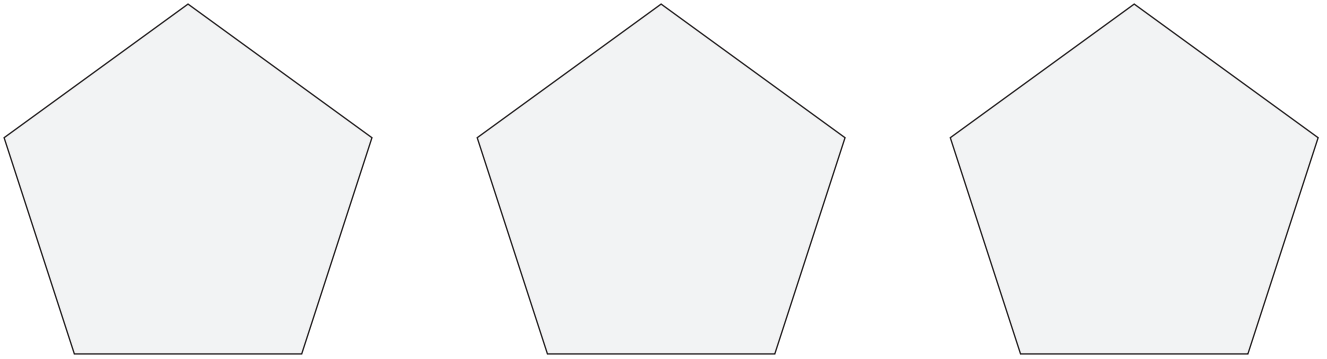
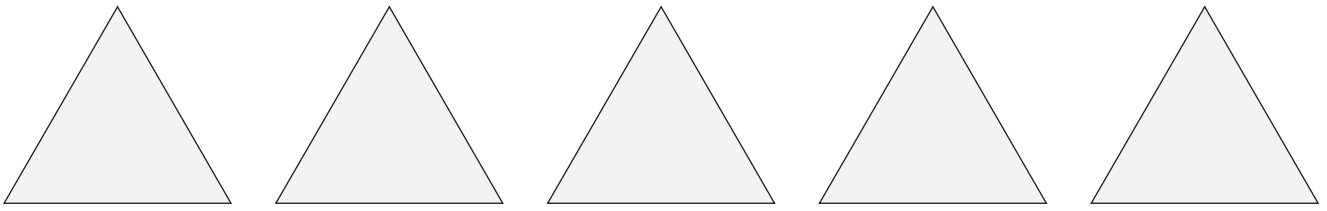


# ÞRÍHYRNINGUR – FERHYRNINGUR – HRINGUR



**PUNKTABLAÐ**

## REGLULEGIR MARGHYRNINGAR



## LEIKUR AÐ RAÐTÖLUM



HVAR Í RÖÐINNI ER:

REFURINN 2.

HREINDÝRIÐ \_\_\_\_\_

ÖRNINN \_\_\_\_\_

LUNDINN \_\_\_\_\_

MÚSIN \_\_\_\_\_

UGLAN \_\_\_\_\_

## SKRIFAÐU:

**R** Í ÞRÍÐJA REIT**K** Í ÁTTUNDA REIT**S** Í SJÖUNDA REIT**N** Í TÓLFTA REIT**D** Í FYRSTA REIT**I** Í ELLEFTA REIT**Í** Í SJÖTTA REIT**I** Í FJÓRÐA REIT**U** Í ÞRETTÁNDA REIT**Ý** Í ANNAN REIT**G** Í TÍUNDA REIT**Ó** Í NÍUNDA REIT**N** Í FIMMTA REIT**M** Í FJÓRTÁNDA REIT

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# TUGIR OG EININGAR

TUGIR	EININGAR	TUGIR	EININGAR	TUGIR	EININGAR	TUGIR	EININGAR
_____	_____	_____	_____	_____	_____	_____	_____
_____							

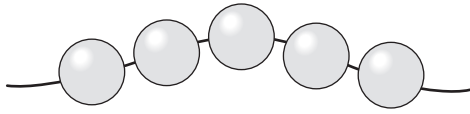
TUGIR	EININGAR	TUGIR	EININGAR	TUGIR	EININGAR	TUGIR	EININGAR
_____	_____	_____	_____	_____	_____	_____	_____
_____							

	TUGIR	EININGAR	TUGIR	EININGAR	TUGIR	EININGAR	TUGIR	EININGAR
	1	5	2	1	1	9	2	5
	15		_____	_____	_____	_____	_____	_____

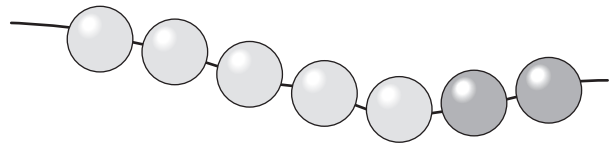


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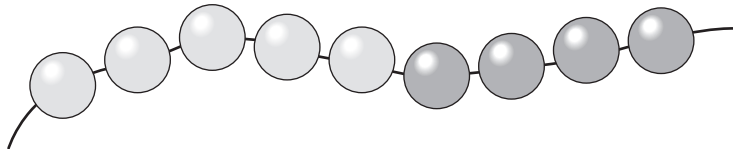
1 TELDU KÚLURNAR.



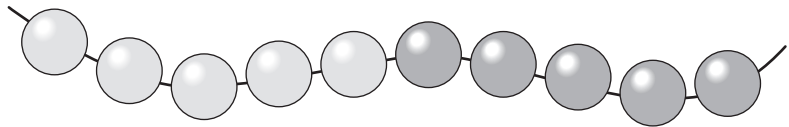
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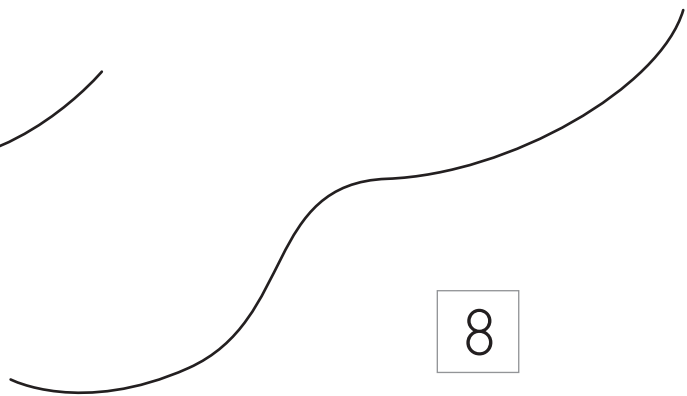


\_\_\_\_\_

2 TEIKNAÐU KÚLURNAR.



6

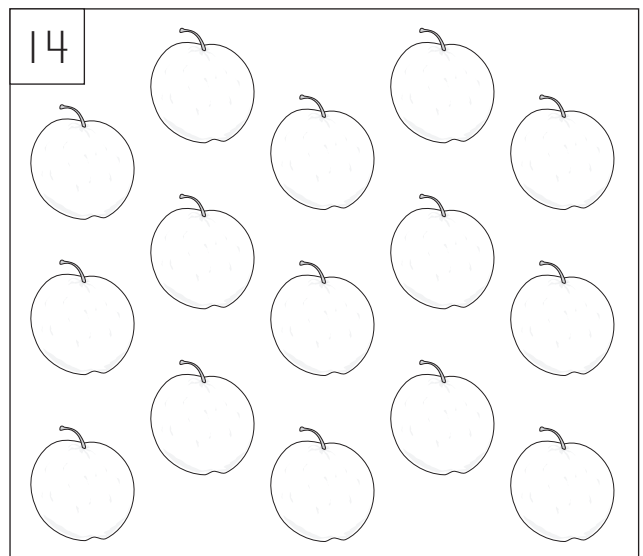
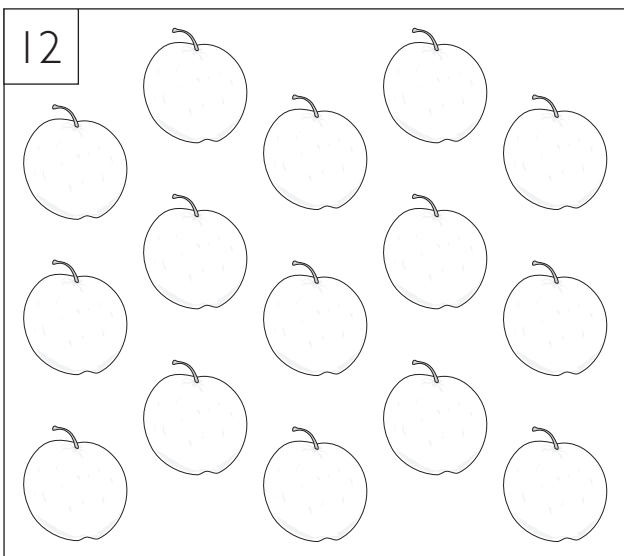
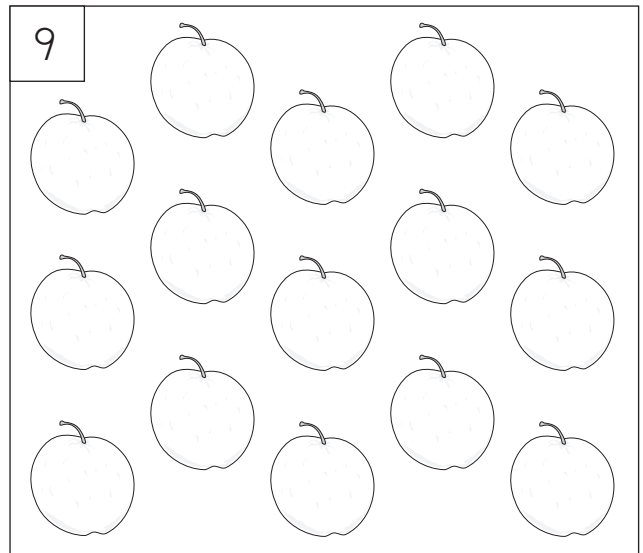
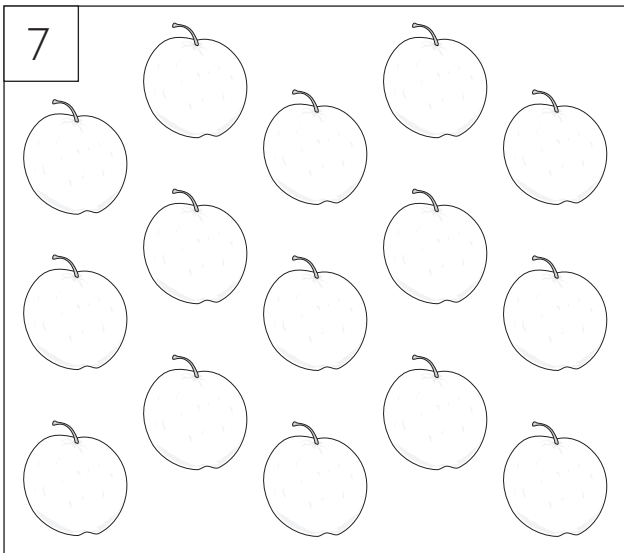
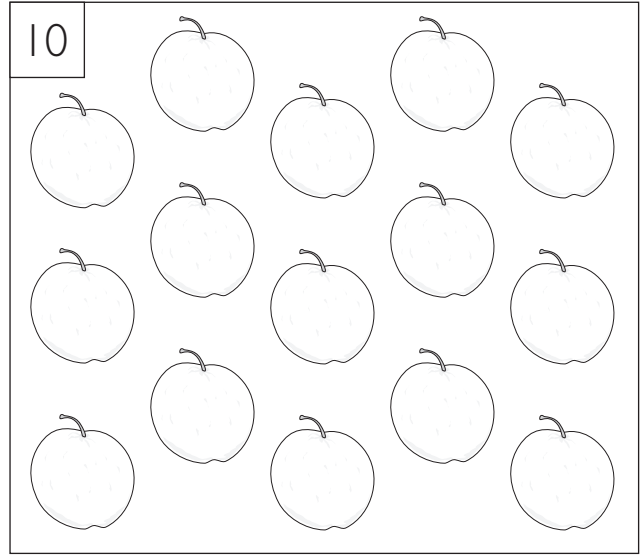
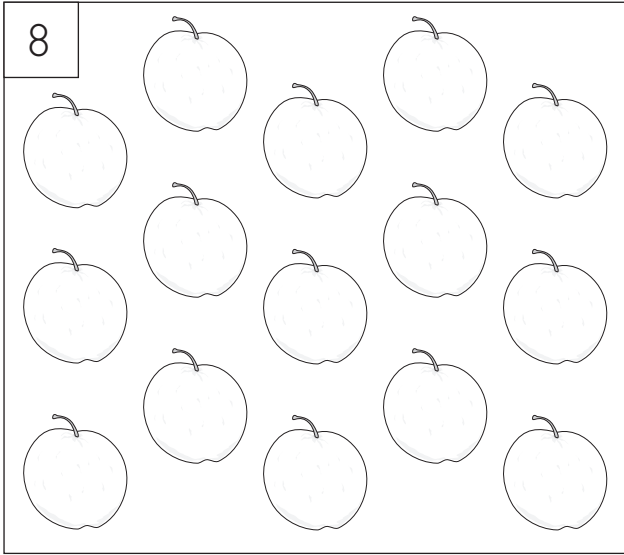


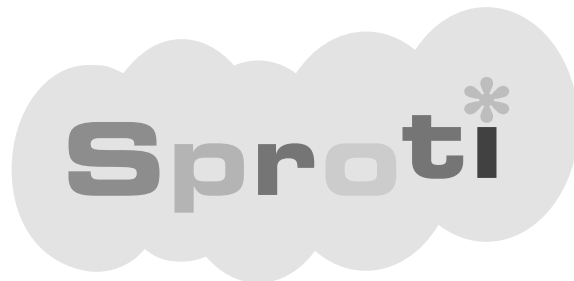
8



12

# LITAÐU EPLI





**2a**

**VERKEFNABLÖÐ**

**LAUSNIR**

Verkefnablað 44

TALNAMYNSTUR I

	+6	→			
-4	16	22	28	34	40
↓	12	18	24	30	
	8	14	20	26	32
	4	10	16	22	28
	0	6	12	18	24

	+	→			
-					
↓					

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Verkefnablað 49

LEIKUR AÐ RAÐTÖLUM



HVAR Í RÖÐinni ER:

REFURINN 2.      HREINDÝRIÐ 7.      ÖRNINN 3.  
LUNDINN 5.      MÚSIN 2.      UGLAN 9.

SKRIFAÐU:

R Í ÞRÍÐJA REIT      K Í ÁTTUNDA REIT      S Í SJÖUNDA REIT  
N Í TÓLFTA REIT      D Í FYRSTA REIT      I Í ELLEFTA REIT  
Í Í SJÖTTA REIT      I Í FJÓRÐA REIT      U Í ÞRETTÁNDA REIT  
Ý Í ANNAN REIT      G Í TÍUNDA REIT      Ó Í NÍUNDA REIT  
N Í FIMMTA REIT      M Í FJÓRTÁNDA REIT

D Y R I N      Í      S K Ó G I N U M

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Verkefnablað 50

TUGIR OG EINGAR

TUGIR	EINGAR	TUGIR	EINGAR	TUGIR	EINGAR	TUGIR	EINGAR
2	3	1	7	1	4	2	0
23		17		14		20	

TUGIR	EINGAR	TUGIR	EINGAR	TUGIR	EINGAR	TUGIR	EINGAR
2	1	1	0	0	6	2	6
21		10		6		26	

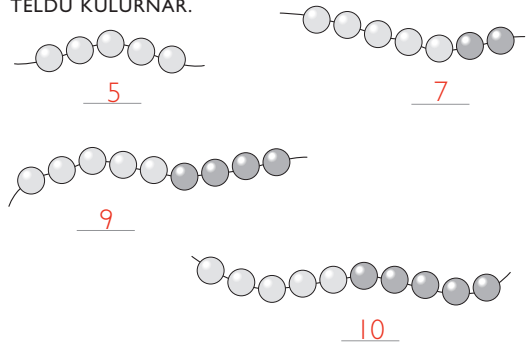
TUGIR	EINGAR	TUGIR	EINGAR	TUGIR	EINGAR	TUGIR	EINGAR
1	5	2	1	1	9	2	5
15		21		19		25	

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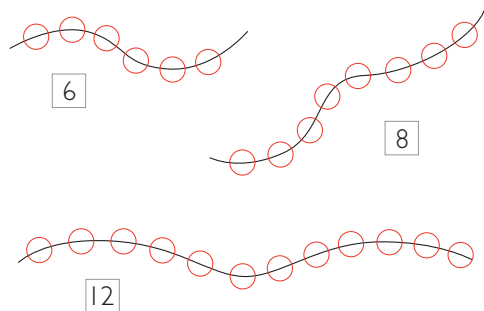
Verkefnablað 51

KÚLNAÐIÐ

I TELDU KÚLURNAR.



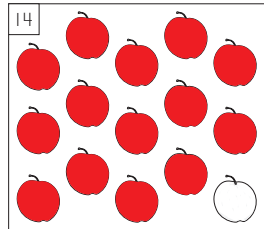
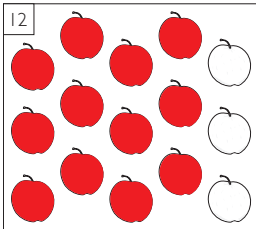
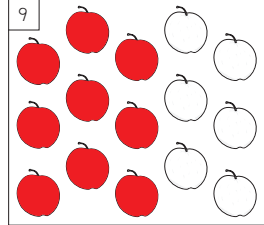
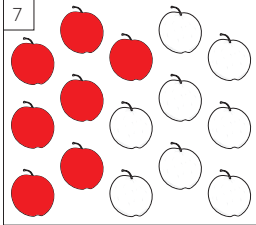
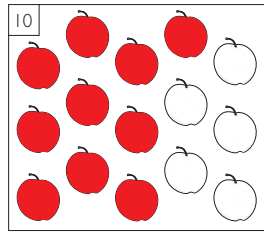
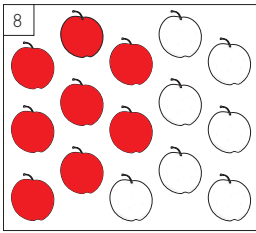
2 TEIKNAÐU KÚLURNAR.



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Verkefnabláð 52

LITABU EPLI



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## Stærðfræði fyrir grunnskóla

**Sproti 2a** er önnur bókin í flokki kennslubóka í stærðfræði fyrir yngsta stig og miðstig grunnskóla.

Í **Sprota** er lögð áhersla á margs konar kennsluaðferðir og misþung verkefni.

Markmiðin eru skýr og er hvert viðfangsefni tekið fyrir á fjölbreyttan hátt. Textar eru stuttir og auðlesnir.

Í öðrum hluta **Sprota** eru:

- nemendabók
- æfingahefti
- verkefnahefti til ljósritunar
- kennarabók

Höfundar:

Björnar Alseth

Henrik Kirkegaard

Mona Røsseland

Hanna Kristín Stefánsdóttir þýddi og staðfærði.

