

Symmetri och mönster

Långsjö 25 mars 2014

Dokumentation: pedagogdirekt.se

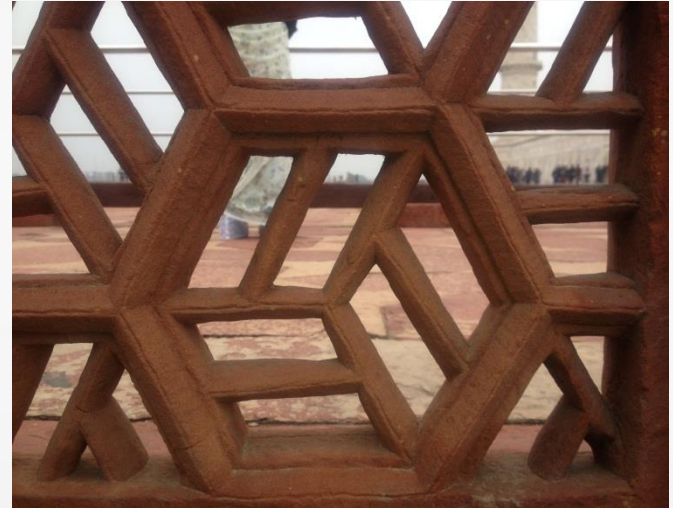
Syfte och mål

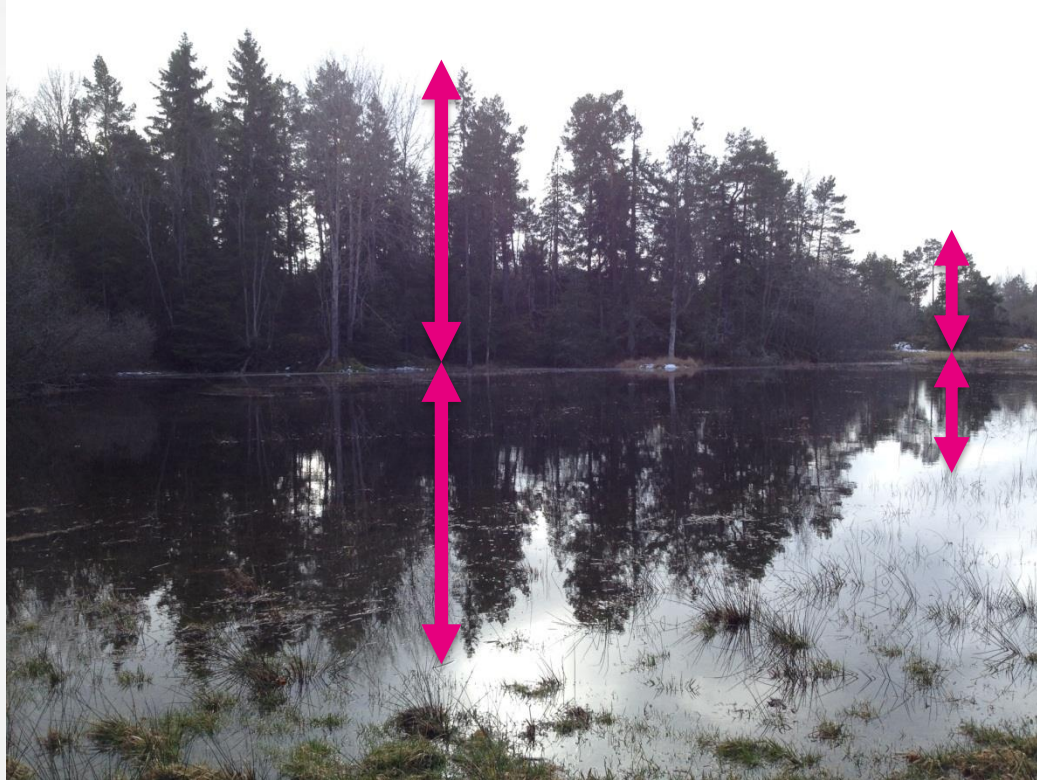
SYFTE

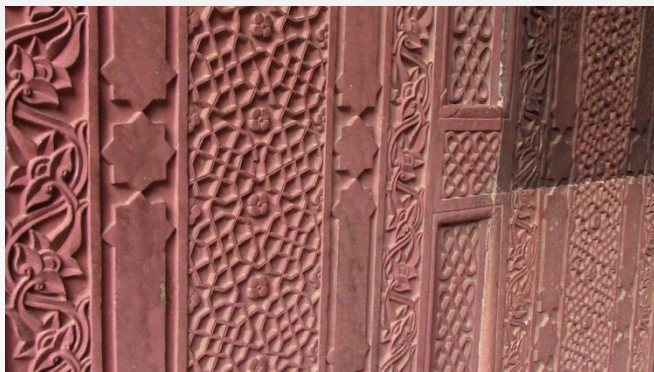
- Fascineras av matematikens uttrycksformer
- Inspireras av symmetri & mönster

MÅL

- Ökad insikt om matematiska begrepp avseende symmetri
- Fler verktyg







- Utveckla olika **förmågor**
- **Reflektera** över
- Uppleva **estetiska värden**

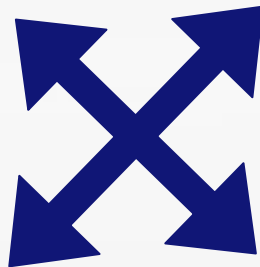
Fyra huvudgrupper...



SPEGEL-
SYMMETRI



REPETITIONS-
SYMMETRI



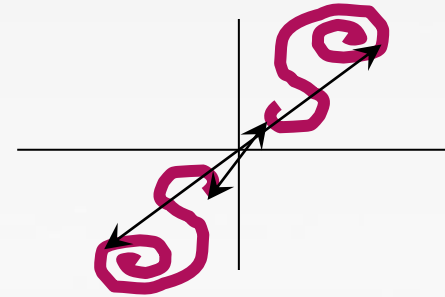
ROTATIONS-
SYMMETRI

GLID-
REFLEKTION



... samt 17 kombinationer

- Punktsymmetri (speglad två gånger)
- Spegling & repetition



- Rotationssymmetri & repetitionssymmetri



Symmetri i...

- Räkneoperationer: **$2+3 = 3+2$**
Kommutativa lagen. Ekvationer
- Multiplikationstabellen
- Palindrom (övning)
- Ambigram
- Musik: [J.S Bach "Crab Canon"](#)



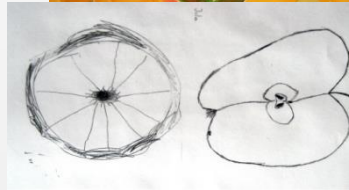
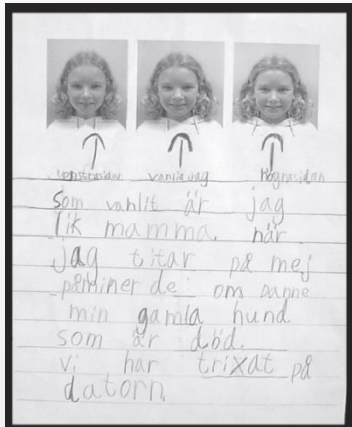
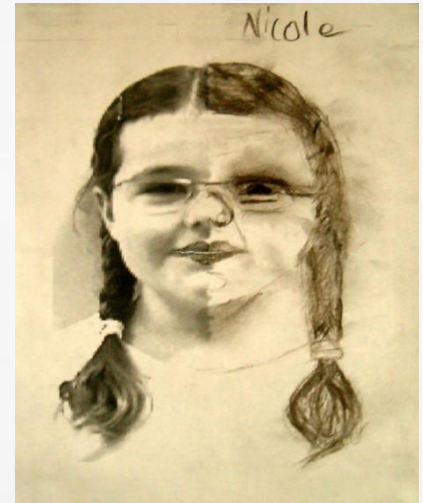
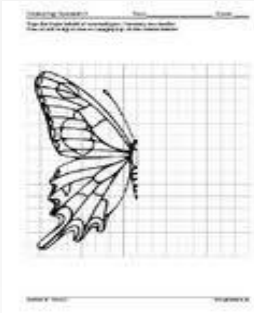
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1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

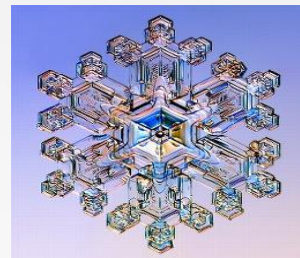




Åk 1-3







dendrit



pelare



platta



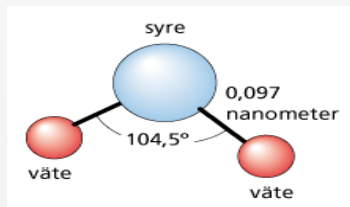
stjärna



nål



pelare med
plattor



Klipp en snöflinga



Åk 4-6



E S H X

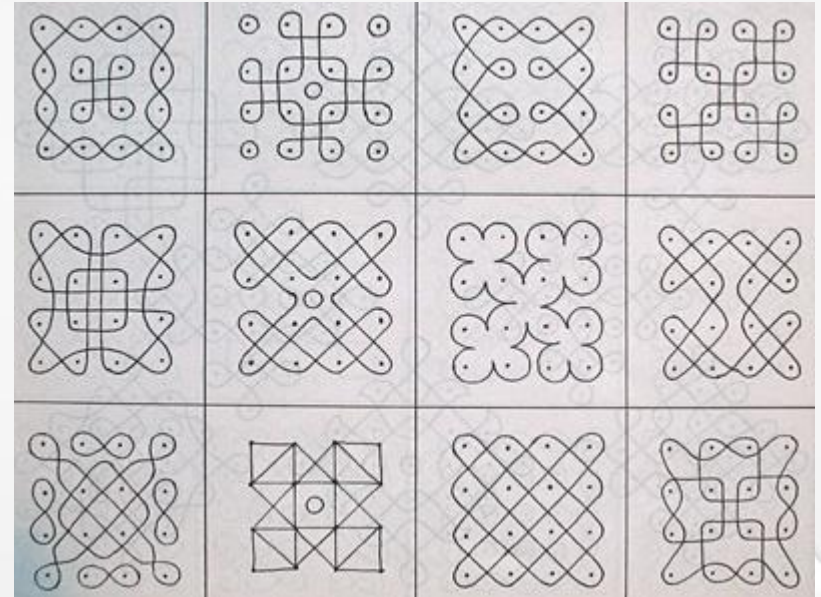


Mandala

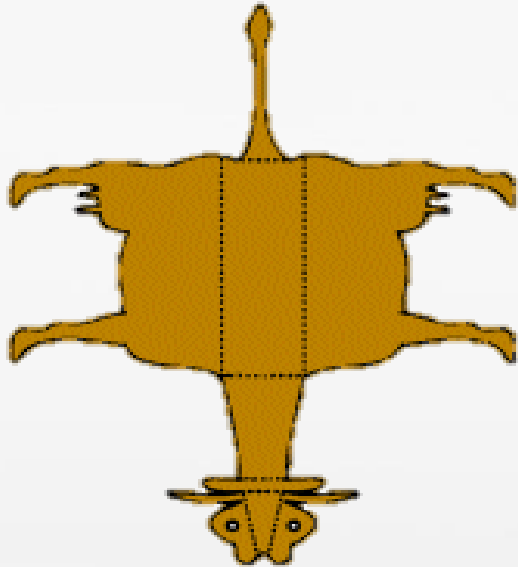


- Väx fram en mandala
- Vika en mandala

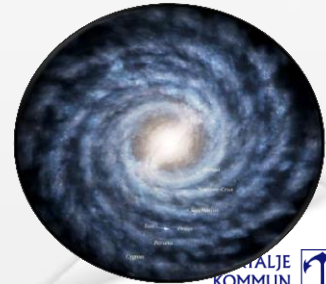
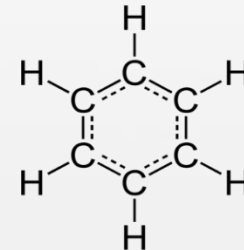
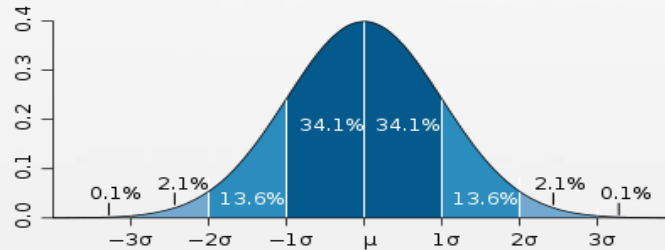
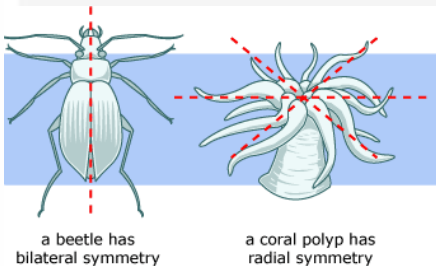
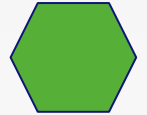
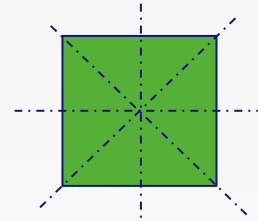
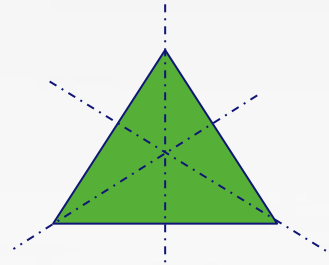
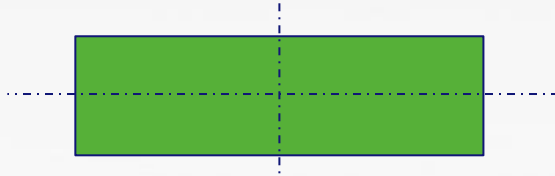
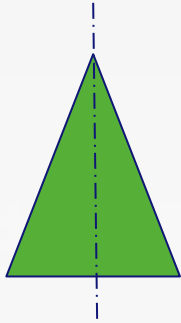
Rangoli / Kolam



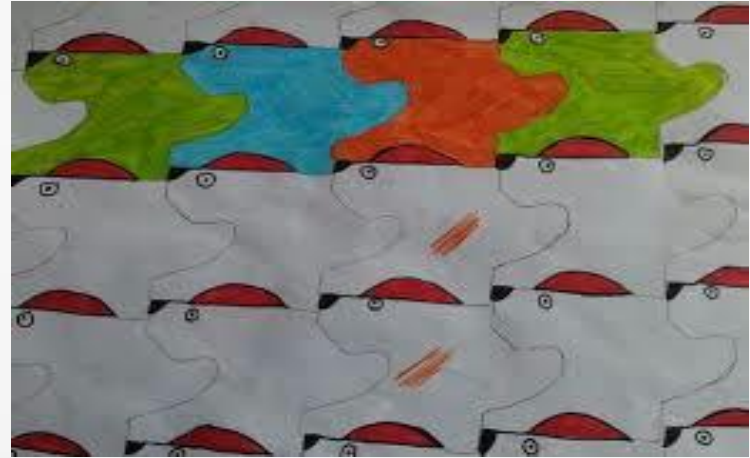
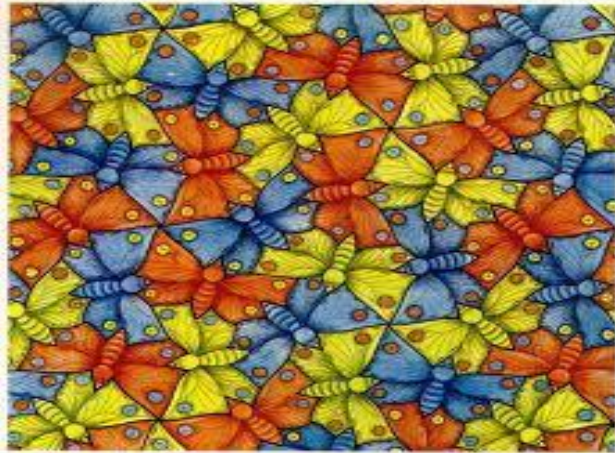
Kirigami, origami & masker



Åk 7-9



Tesselering



Fibonacci-tal

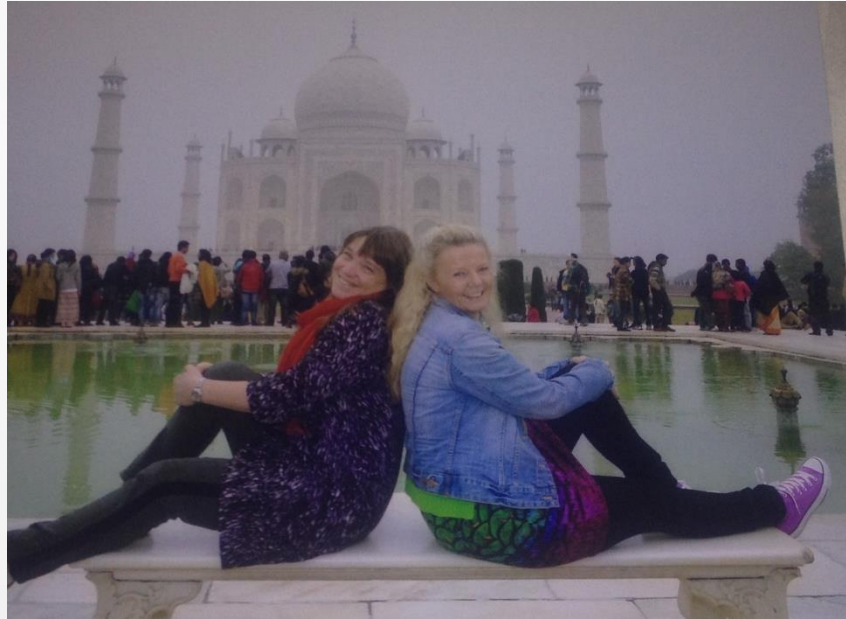
1 1 2 3 5 8



KREERA m.m.



Vad gav det här då?



Tack!

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