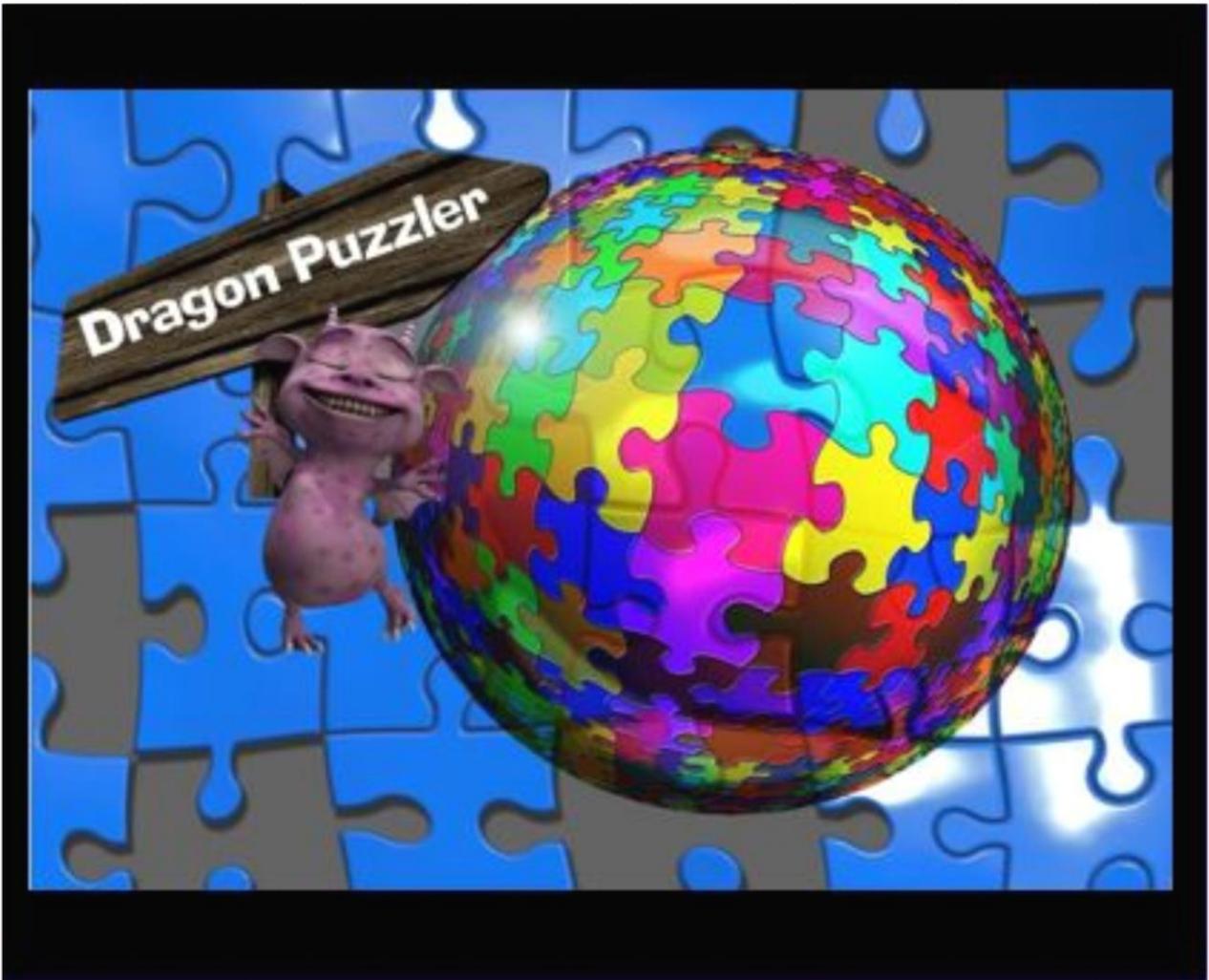


Picture Puzzles



Pictorial Numeracy Challenges for KS2

Numeracy in Pictures

Can you find the fruity answer?

$$\text{Apple} + \text{Apple} + \text{Apple} = 36$$

$$\text{Pear} + \text{Pear} + \text{Apple} = 20$$

$$\text{Pear} - \text{Eggplant} = 3$$

$$\text{Apple} + \text{Pear} + \text{Eggplant} = ?$$

Your Answer

Find a partner. Do they have the same answer as you?

Convince them that you are right!

Numeracy in Pictures

One solution

 $= 12$

 $= 4$

 $= 1$ so

Total = 17

Key Questions

1. Is this the answer you found?
2. How did you work it out?
3. Are there any other solutions?

Tweet your answer to [@CullyEducation](https://twitter.com/CullyEducation)

Numeracy in Pictures

2016



January							February							March							April						
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
27	28	29	30	31	1	2	31	1	2	3	4	5	6	28	29	1	2	3	4	5	27	28	29	30	31	1	2
3	4	5	6	7	8	9	7	8	9	10	11	12	13	6	7	8	9	10	11	12	3	4	5	6	7	8	9
10	11	12	13	14	15	16	14	15	16	17	18	19	20	13	14	15	16	17	18	19	10	11	12	13	14	15	16
17	18	19	20	21	22	23	21	22	23	24	25	26	27	20	21	22	23	24	25	26	17	18	19	20	21	22	23
24	25	26	27	28	29	30	28	29	1	2	3	4	5	27	28	29	30	31	1	2	24	25	26	27	28	29	30
31	1	2	3	4	5	6	6	7	8	9	10	11	12	3	4	5	6	7	8	9	1	2	3	4	5	6	7

May							June							July							August						
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7	29	30	31	1	2	3	4	26	27	28	29	30	1	2	31	1	2	3	4	5	6
8	9	10	11	12	13	14	5	6	7	8	9	10	11	3	4	5	6	7	8	9	7	8	9	10	11	12	13
15	16	17	18	19	20	21	12	13	14	15	16	17	18	10	11	12	13	14	15	16	14	15	16	17	18	19	20
22	23	24	25	26	27	28	19	20	21	22	23	24	25	17	18	19	20	21	22	23	21	22	23	24	25	26	27
29	30	31	1	2	3	4	26	27	28	29	30	1	2	24	25	26	27	28	29	30	28	29	30	31	1	2	3
5	6	7	8	9	10	11	3	4	5	6	7	8	9	31	1	2	3	4	5	6	4	5	6	7	8	9	10

September							October							November							December						
Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat
28	29	30	31	1	2	3	25	26	27	28	29	30	1	30	31	1	2	3	4	5	27	28	29	30	1	2	3
4	5	6	7	8	9	10	2	3	4	5	6	7	8	6	7	8	9	10	11	12	4	5	6	7	8	9	10
11	12	13	14	15	16	17	9	10	11	12	13	14	15	13	14	15	16	17	18	19	11	12	13	14	15	16	17
18	19	20	21	22	23	24	16	17	18	19	20	21	22	20	21	22	23	24	25	26	18	19	20	21	22	23	24
25	26	27	28	29	30	1	23	24	25	26	27	28	29	27	28	29	30	1	2	3	25	26	27	28	29	30	31
2	3	4	5	6	7	8	30	31	1	2	3	4	5	4	5	6	7	8	9	10	1	2	3	4	5	6	7



Question

The 1st and last 4 months have double the Sundays of the middle 4 months. True or false?

Your Answer

Find a partner. Do they have the same answer as you?

Convince them that you are right!

Numeracy in Pictures

One solution

False.

1st 4 months = $5 + 4 + 4 + 4 = 17$ Sundays

Last 4 months = $4 + 5 + 4 + 4 = 17$ Sundays

$17 + 17 = 34$ Sundays in the first four and last four months

Middle four months = $5 + 4 + 5 + 4 = 18$ Sundays

Double 18 is 36.

Key Questions

1. Is this the answer you found?
2. How did you work it out?
3. Are there any other solutions?

Tweet me your own calendar challenges!

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Numeracy in Pictures



Question

In 2058, I will be 50. How old was I in 2017?

Your Answer

Find a partner. Do they have the same answer as you?

Convince them that you are right!

Numeracy in Pictures

One solution

9yrs old

2058 is 41 years ahead so they must be 9 yrs old in 2017

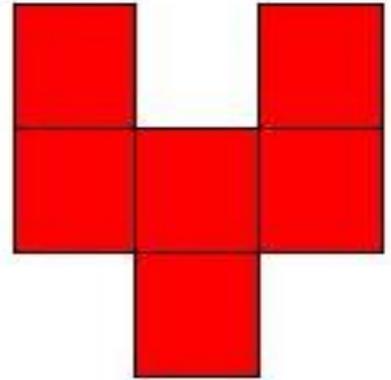
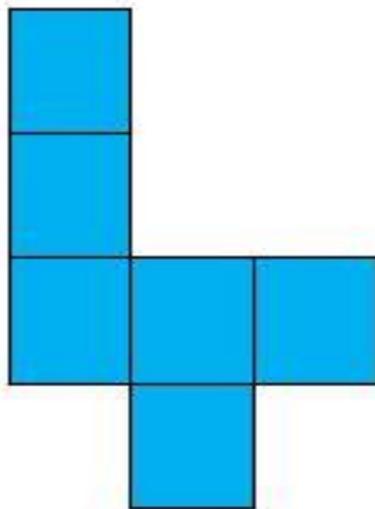
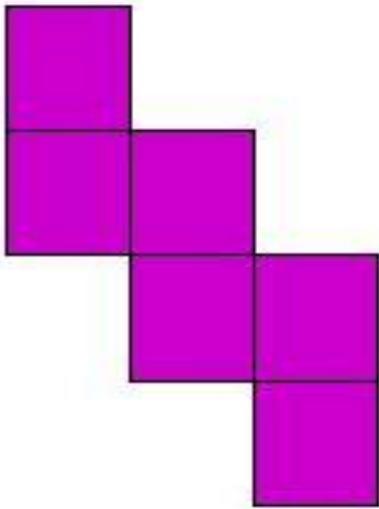
Key Questions

1. Is this how you solved it?
2. How many different methods have your class used to solve the question?
3. Which is the most effective method?
4. Can you explain your method so that someone else could use it?

Is your method more effective than the solution above?

Tweet me [@CullyEducation](https://twitter.com/CullyEducation)

Numeracy in Pictures



Question

Which of these nets make a cube?

Your Answer

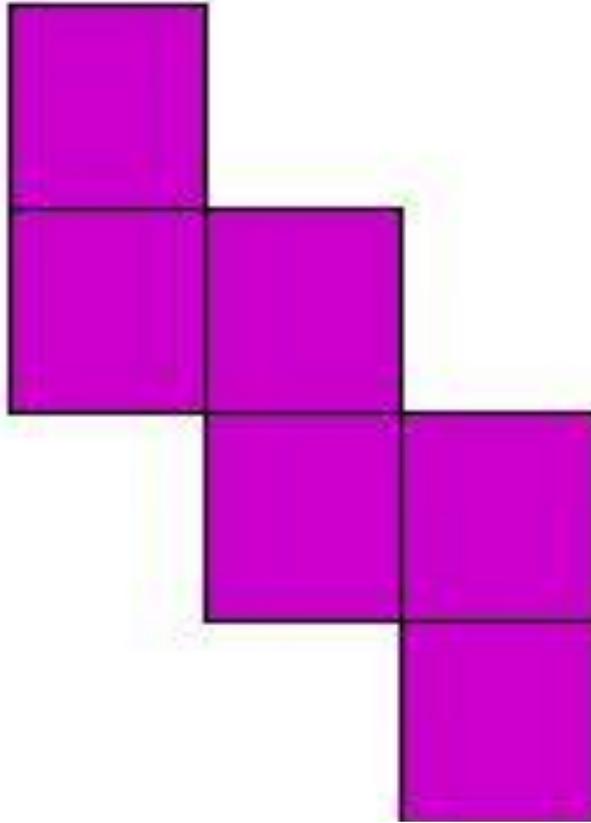
Find a partner. Do they have the same answer as you?

Convince them that you are right!

Numeracy in Pictures

One solution

The purple net makes a cube.



Key Questions

1. Is the net that you identified?
2. How could you change the other nets so that they made a cube?

Tweet your ideas [@CullyEducation](https://twitter.com/CullyEducation)

Numeracy in Pictures



There are the same amount of Sundays in January 2017 but one less Saturday. True or false?

2017

Question

What do you think?
True or false?

JANUARY						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Your Answer

Find a partner. Do they have the same answer as you?
Convince them that you are right!

Numeracy in Pictures

One solution

True.

The first of Jan 2017 is a Sunday so there is one less Saturday.

Key Questions

1. Is this the answer you found?
2. What do you notice about January 2018 and 2019?
3. Can you find any other patterns?

Tweet me your own calendar challenges

[@CullyEducation](https://twitter.com/CullyEducation)

Numeracy in Pictures



Question

If the pattern continued, the 116th paperclip would be blue.
True or false?

Your Answer

Find a partner. Do they have the same answer as you?
Convince them that you are right!

Numeracy in Pictures

One solution

False.

It would be yellow.

Key Questions

1. Is this the answer you found?
2. How did you work it out?
3. Can you explain your method so that someone else could use it?

Tweet your answers [@CullyEducation](https://twitter.com/CullyEducation)

Numeracy in Pictures



Softy the snowman began melting the same day that he was built. If he melts 50cm a day and has totally disappeared by Friday, what day was he built?

Question

Can you work out when Softy the snowman was built?

Your Answer

Find a partner. Do they have the same answer as you?

Convince them that you are right!

Numeracy in Pictures

One solution

Softy was built on a Tuesday.

Softy was 1.8m tall when he was built. 1.8m is 180cm.

On Tuesday, Softy melted 50cm so was 130cm at the end of the day.

On Wednesday, Softy melted 50cm so was 80cm at the end of the day.

On Thursday, Softy melted 50cm so was 30cm at the end of the day.

On Friday, Softy melted the last 30cm and had totally disappeared.

Key Questions

1. Is this how you solved it?
2. How many different methods have your class used to solve the question?
3. Which is the most effective method?
4. Can you explain your method so that someone else could use it?

Is your method more effective than the solution above?

Tweet me [@CullyEducation](https://twitter.com/CullyEducation)

Numeracy in Pictures

 $= 8$

 $= 4 +$ 

 $= 2 +$ 

 $+$  $+$  $= ?$

Question

Can you find the fruity answer?

Your Answer

Find a partner. Do they have the same answer as you?

Convince them that you are right!

Numeracy in Pictures

One solution

**The answer to the
fruit salad puzzle is
26.**

Key Questions

1. Is this the answer you found?
2. How did you solve it?
3. Can you explain your method so that someone else could use it?
- 4.

Tweet me your own fruit salad challenges?

[@CullyEducation](https://twitter.com/CullyEducation)

Numeracy in Pictures



- ✚ The digits in 2017 add up to 10
- ✚ 2017 is a prime number
- ✚ 2017 is divisible by 17

Question

Are all these statements true?
Prove it!

Your Answer

Find a partner. Do they have the same answer as you?
Convince them that you are right!

Numeracy in Pictures

One solution

No.

$$2 + 0 + 1 + 7 = 10,$$

2017 is only divisible by 1 and 2017 so it is a prime number,

$$2017 \text{ divided by } 17 = 118.6$$

It has a remainder so the last statement is false.

Key Questions

1. Is this the answer you found?
2. How can you prove your answers?

Tweet your answers [@CullyEducation](https://twitter.com/CullyEducation)

Numeracy in Pictures



Question

If the hopscotch continued, 33 would be a single square. True or false?

Your Answer

Find a partner. Do they have the same answer as you?

Convince them that you are right!

Numeracy in Pictures

One solution

False.

It would be on the right of a double square

Key Questions

1. Is this the answer you found?
2. How did you work it out?
3. What is the most effective method?

Tweet your method [@CullyEducation](https://twitter.com/CullyEducation)