

Number Vision: Discussion cards (Set A 50 cards for 3rd/ 4th classes)

These are my 'Number Vision Discussion Cards'. The discussion cards are an opportunity for guided discussion. It can be a child to child or teacher to child/ children. Through using these cards, pupils are given the opportunity to clarify his/ her thinking through discussion, rather than just questioning. They practice turn-taking, respecting others opinions and gain confidence in putting forward their own opinions.

Discussion skills¹ such as

1. Turn-taking
2. Active listening
3. Positive response to the opinions of others
4. Confidence in putting forward an opinion
5. Ability to explain clearly their point of view

Discussion card activities

- True/ false activity: Using the true/ false cards give each pupil a card. The cards have the word 'true' on one side and 'false' on the other side. These cards can be used along with the discussion cards, or the leader/ teacher can create their own statements or questions. This activity encourages pupils to interact in a class discussion. By holding up their true/ false cards, the teacher/ leader can see at a glance which pupils need guidance in regards to the statement/ question. This activity can be useful for revising and reinforcing previously taught mathematical knowledge. Pupils are able to generate their own questions/ statements (with the guidance of the teacher) and become the leader

How to play:

The leader/ teacher reads out a discussion card. Pupils discuss the statement in pairs or groups and decide if they think it is true or false. Once sufficient time has been given for discussion, the teacher asks pupils to show their card as 'true' or 'false'. The teacher can select pairs/ groups/ individuals to justify their thought behind their chosen answer.

- Who wants to be a millionaire?: Use the discussion cards, (or statements created by pupils based on a specific mathematical concept recently learned) to play a classroom version of the television game who wants to be a Millionaire! Selected pupil can sit in the maths chair at the front of the room. The teacher or another pupil can be the leader and read out a discussion card or display a card on the whiteboard. Like the TV game pupils can answer the question themselves, phone a friend (who can only answer by offering a strategy that can be used), or ask the audience ...who can have digit cards, the true/ false cards or whiteboards to show their opinions.

¹ Primary School Curriculum, Mathematics, Teacher Guidelines. Approaches and Methodologies pg 30

- Discussion cards: The cards can be used as a finished early activity for pupils who can work in pairs, with the emphasis being on the ability to explain strategies used to reach the answer.
- Create discussion statements: Pupils can work in pairs and create discussion statements like the ones in the cards. The teacher/ leaders can give an answer such as 52cm. Pupils have to create three statements that fit the answer given. *For e.g. I had a piece of string 1m in length. When I cut of a piece that was 48cm in length I had ____ cm left... If I had a rope 5.2cm in length and cut it into ten equal parts each part would be*
- The problem of the day/ Monday's discussion card: Use the discussion cards as a focus for discussion once a day or once a week.
- Around the world: Use the discussion cards or cards that pupils made specific to a maths area just covered. Pick two pupils to begin the game. Teacher shows/ reads them a discussion card. The first pupil to get it correct (and able to explain the strategy used to get the answer) gets the card. The second pupil sits down, and another person stands up in his/ her place. Play continues. Whichever pupil gets the question correct keeps the card, and a new opponent stands up.
 - If it is a tie, the teacher will select a second discussion card.
 - If a pupil calls out an incorrect answer or is unable to explain how they arrived at their answer, they sit down. Their opponent stays.
 - No second chances allowed
 - The teacher can allow a set amount of time (10 seconds, e.g. depending on the level of difficulty)
 - The pupil who 'goes around the world' and gets all the questions correct is the winner. Otherwise, it is the pupil with the most cards.
- Maths Mastermind: Selected pupil can sit in the *maths chair* at the front of the room. A pupil has to answer 10 questions based on a specific mathematics topic such as multiplication facts, addition facts (doubles, near doubles), decimals, fractions etc. Like the television game, pupils can be asked, "*what is your name and what is your specialized subject area?*" A pupil might answer '*multiplication facts x2,x4,x6*'.

The questions can be written by the teacher initially after a specific topic has been covered to use as an example for pupils. Eventually, pupils can design the questions. The discussion cards can also be used here

False



False



False



False



True



True



True



True



1.

True or false?

Multiplication makes
numbers bigger

2.

True or false?

When you double a whole
number, the answer is
always an even number

3.

True or false?

A square is a special
type of rectangle

4.

True or false?

100m is equal to
1Km

5.
5039

True or false?

This number says five thousand
three hundred and nine

6.

True or false?

0.1 is the same as 1.0

7.
On Monday at school, Peter and his friends
traded football cards at break time. On
Monday Peter got 3 cards, on the 2nd day he
got 6 cards. On Wednesday he got 9 cards
and on the 4th day he got 12 football cards.

True or false? If this pattern continues, he
will get 27 football cards on the 10th day.

8.

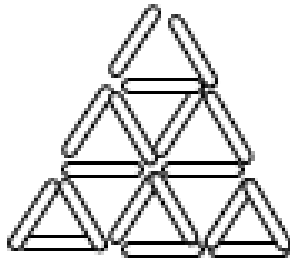
True or false?

In a book with 100 pages,
you see the numeral 5 in
the page numbers 20 times

9. There are 3 children in the Gallagher family. The sum of the children's ages is 16. The product of their ages is 150. The twins are younger than their sister. All the children are younger than 7 years.

The youngest children were 3 years old. True/ false?

11.

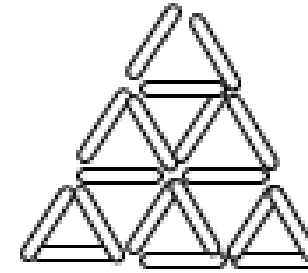


- True/ false? You need to remove 6 lollipop sticks to make a hexagon

Further discussion:

1. How many equilateral triangles can you find in the hexagon?

10.

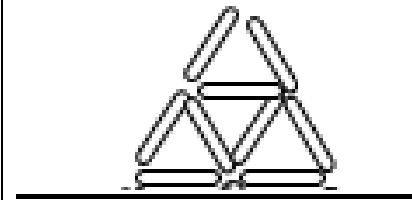


- True/ false? There are 9 equilateral triangles altogether in this shape

Further discussion:

1. How many parallelograms can you find in the large triangle?

12.



True or false?

- You need to remove 1 lollipop stick to leave a rhombus

Further discussion:

1. Remove one lollipop stick to leave 3 equilateral triangles of different sizes
2. Remove two lollipop sticks to leave 3 equilateral triangles of different sizes

13. On a cruise ship of 9632 people in the Mediterranean, there were 2562 men and 3211 children on board.

True or false? This would leave 3850 women on board.

14. Paul's job was to pack 6 eggs in every egg box. Today he filled 58 egg boxes and has 4 eggs left.

True or false?

Paul had 400 eggs at the start.

*15.
At the school sports day, the children took part in different events.*

Twice as many did the high jump as did the egg and spoon race

There were 14 more running a relay race than doing the egg and spoon race

Half as many children did the sack race as did the egg and spoon race

12 children did the egg and spoon race

True or false? 80 children took part in the school sports events.

*16.
On a trip to a local farmyard, the children saw a lot of different animals.*

They counted three times as many brown cows than pigs.

There were twice as many sheep as pigs

They saw half as many horses as pigs

They spent a long time in the open green fields

They fed 10 pigs

True or false? The children saw 65 animals on their trip to the farmyard.

<div> </div> <p>17.</p> <p><u>True or false</u></p> <ul style="list-style-type: none"> • Line A is parallel to line E • Line C is vertical • Line D is diagonal to line A • Line A to perpendicular to Line B • Line E is perpendicular to lines B and A 	<p>18.</p> <div> </div> <p>John spent 2 hours with his young brother in the town centre play area. Use the pie chart to determine if the statements are true or false.</p> <ul style="list-style-type: none"> • They played for half an hour in the ball pool • They spent fifteen minutes on the swings • They stayed in the art& craft area for an hour.
<p>19. Freddy loves his garden. He has many different flowers and trees growing. One day he measured their different heights.</p> <p><i>The daffodils were twice as tall as the bluebells</i></p> <p><i>The sunflowers were twice as tall as the daffodils</i></p> <p><i>The rose bush was 1m taller than the daffodils.</i></p> <p><i>The bluebells were 30 cm tall</i></p> <p><u>True or false:</u></p> <p>The total height of the bluebell, sunflowers, daffodils and rose bush was 3m 70cm</p>	<p>20.</p> <p>Mary is counting in 2's. Peter is counting in 8's.</p> <p><u>True or false</u></p> <ul style="list-style-type: none"> • The first number they will both say will be 20 • The second number they will both say when added to the first number, will total 72.

21.

Think of a number less than 10. Double the number.

Add 8

Get half of the answer

Take away the first number you thought of.

True or false

The answer will always be 4

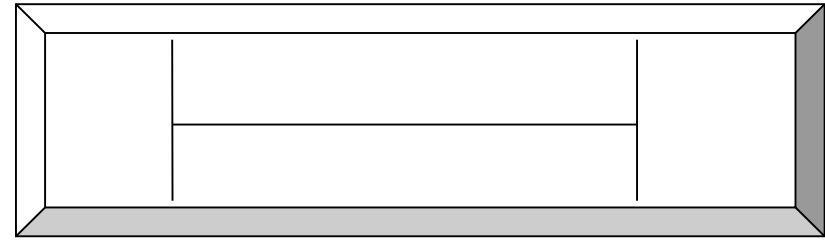
23.

ABCDEFGHIJKL
MNOPQRSTUVWXYZ

True or false?

- There are 10 vertical lines of symmetry
- There are 10 horizontal lines of symmetry
- There are 3 shapes that have both horizontal and vertical lines of symmetry

22.



True or false

- There are 5 horizontal lines in the picture
- There are no diagonal lines
- There are 20 right angles
- There are 4 vertical lines parallel to each other

24.

True or false?

When you half an even number the answer is always even.

25. Andy, the ant, climbed a 3m mountain! Each day he climbed 30cm but slid back down 20cm each night.

True or false?

It took Andy 10 days to climb the mountain.

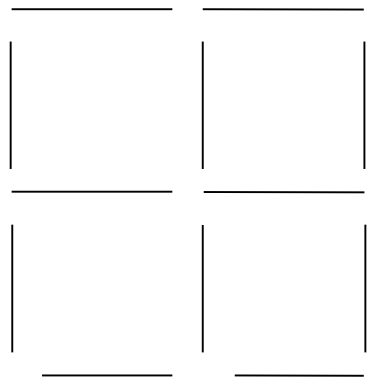
26. Children at school were given a task to present the teacher with 4L of water. They were given a huge drum, a running water tap and two buckets. The first bucket holds 5L of water and the second holds 3L of water.

True or false?

The children decided that if they filled the drum with the 5L bucket twice and took away the 3 L bucket of water from this drum twice, they would have 4L left in the drum.

Further discussion:

How will the children get 1L for the teacher?



27. True or false?

You can remove 2 lollipop sticks to leave 3 equal squares.

Further discussion:

- 1. Remove 4 lollipop sticks to leave 3 equal squares*
- 2. Remove 3 lollipop sticks to leave 3 equal squares*

28.

5 cats catch 5mice in 5 minutes.
This means that 100 cats catch
100 mice in 100 minutes.

True or false?

29. *Pat is selling vegetables. He has 23 potatoes, 19 broccoli and 27 peppers to pack. The potatoes are packed into bags of six, the broccoli into bags of 3 and the peppers into bags of 4. The leftover vegetables are packed into one bag.*

If each potato costs 17c, each broccoli 52c and each pepper 25c, the leftover vegetables in the bag cost 2 euro 10 cents. **True or false?**

31. *The watering can holds 3L 650ml when full. Pete watered the flowers in the morning and used 320ml, Susan finished the watering in the evening using another 1L 220ml.*

True or false?

There was 320ml left in the watering can at the end of the day.

30. A tap drips every 5 minutes. Therefore...

True or false

1. The tap drips 10 times in 50 minutes
2. The tap drips 20 times in 15 minutes
3. The tap drips 12 times in one hour

32. Counting in eights:
True or false?

$\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$,
 $\frac{8}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$...

33.

True or false?

There are 366 days
in each year

34. True or false?

- There are 92 days in winter (November, December & January)
- There are 92 days in summer

35. Counting in tenths:
True or false?

$\frac{1}{10}$, $\frac{1}{5}$, $\frac{2}{10}$, $\frac{3}{10}$, $\frac{2}{5}$, $\frac{4}{10}$, $\frac{1}{2}$,
 $\frac{3}{5}$, $\frac{7}{10}$, $\frac{4}{5}$, $\frac{9}{10}$, $\frac{10}{10}$, 1,
 $1\frac{1}{10}$, $2\frac{2}{10}$, $3\frac{3}{10}$...

36. There are 246 pupils at Mason Secondary School. There are 26 teachers and 13 teacher assistants.

True or False?

The school must prepare 272 school lunches each day.

37. Pirate Killjoy was famous for attacking other ships. He raided 10 ships in his first week at sea, 13 ships in his second week and became master in Command of the largest sea vessel after raiding it in his third week.

True or false?

To become master in Command he had to raid 23 ships in all.

39. Mark, a novice climber, was climbing a 4000m mountain. Each day he climbed 400m but fell back 200m each night.

True or false?

It took Mark 10 whole days to reach the top of the mountain.

38. Farmer Joe gathered his flock together one week to sheer their wool. On Monday he filled 12 bags with wool, on Tuesday he started work early in the morning and filled twice as many bags as Monday. He finished sheering on Wednesday after a few hours and filled half as many bags as Monday. Each bag of wool was sold for 10 euro.

True or false?

Farmer Joe received 420 euro that week for the sheep's wool.

40. Every day Nana Sally goes to feed the hens and collect the eggs the hens have laid. Today she collects 76 eggs! She packs 54 eggs for selling but keeps the rest that she needs for breakfast as she has a lot of guests staying. All the guests each have 2 eggs for breakfast. Nana Sally eats the last two eggs.

True or false?

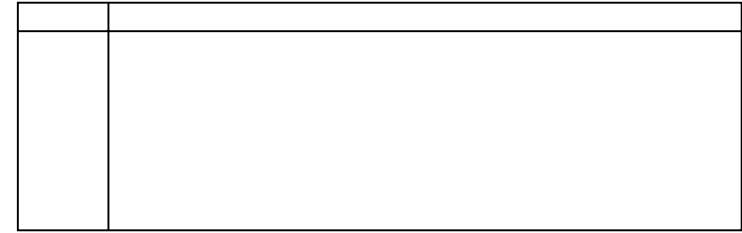
10 guests were staying in Nana Sally's house.

41. Sadie and Joan love to read books. Sadie attends the local library where she can take home 8 different books each week. Joan attends two libraries which means she has 16 different books each week.

True or false?

In total, the girls read 50 books between them each fortnight and 96 books each month.

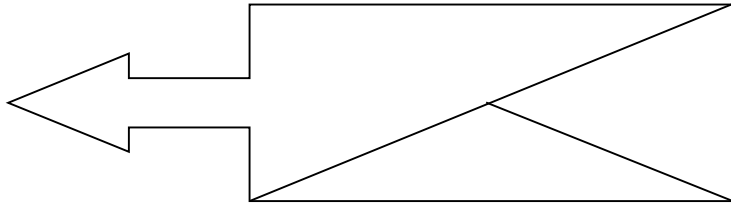
42.



True or false?

There are 16 right angles in this picture

43.



True or false?

- There are 5 right angles in the picture
- All the other angles are obtuse

44. One raindrop measures about 1 ml, a teaspoon holds about 5 raindrops.

True or false?

There is 25 ml in 25 raindrops

There is 25 ml in 4 spoonfuls

There is 50ml in 10 spoonfuls

45. True or false

- A cube has 8 square faces
- A cylinder has 1 circle face and two curved faces
- A cone has one curved face and one circle face
- A cuboid has more faces than a cube

46. True or false

- A cube can slide and roll
- A cone can slide and roll
- A cylinder can slide and roll

47.

Anna's book has one hundred and seventy-six pages. She has read one hundred and twenty of them. She has fifty pages left to read. True or false?

48.

4,572

True or false?

This number reads four thousand five hundred and seventy-two

49.

True or false?

Division makes
numbers bigger

50.

True or false?

In a book with 100 pages,
you see the numeral 6 in
the page numbers 37 times