

Roly poly

The dots on opposite faces of a dice add up to 7.

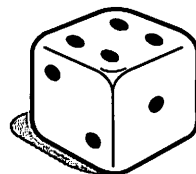
1. Imagine rolling one dice.

The score is the total number of dots you can see.

You score 17.

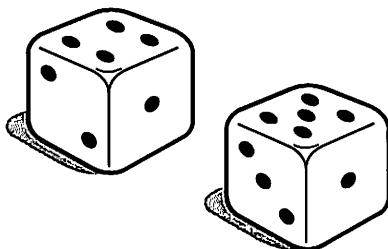
Which number is face down?

How did you work out your answer?



2. Imagine rolling two dice.

The dice do not touch each other.



The score is the total number of dots you can see.

Which numbers are face down to score 30?

Teaching objectives

Solve mathematical problems or puzzles.
Add three or four small numbers.
Explain methods and reasoning.

27

Spaceship



Some Tripods and Bipods flew from planet Zeno.
There were at least two of each of them.

Tripods have 3 legs.
Bipods have 2 legs.
There were 23 legs altogether.

How many Tripods were there?
How many Bipods?

Find two different answers.

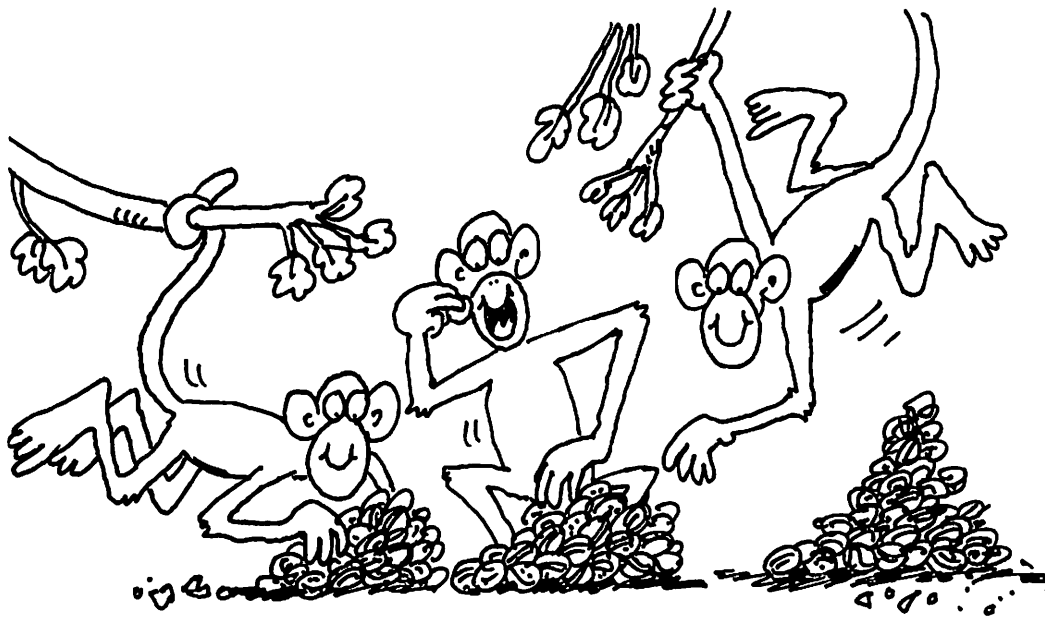


Teaching objectives

Solve mathematical problems or puzzles.
Count on in steps of 2 or 3.
Know multiplication facts for 2 and 3 times tables.

29

Three monkeys



Three monkeys ate a total of 25 nuts.

Each of them ate a different odd number of nuts.

How many nuts did each of the monkeys eat?

Find as many different ways to do it as you can.

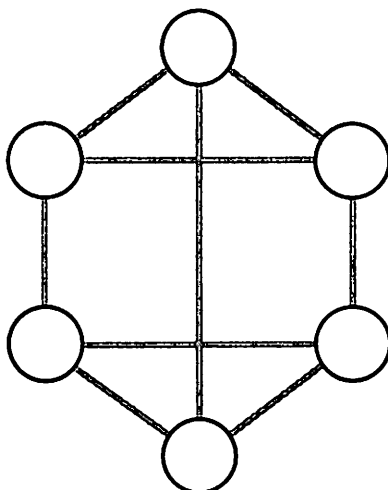
Teaching objectives

Solve mathematical problems or puzzles.
Recognise odd and even numbers.
Add three or four small numbers mentally.

31

Neighbours

Use each of the numbers 1 to 6 once.
Write one in each circle.



Numbers next to each other must not be joined.
For example, 3 must not be joined to 2 or 4.

1 2 3 4 5 6

Teaching objectives

Solve mathematical problems or puzzles.
Order numbers 0 to 9.
Explain methods and reasoning.

33

Mathematics

Arithmetic: Test 1a

Year 3

Name	
Date	

1

$$23 + 100 =$$

1 mark

2

$$457 - 40 =$$

1 mark

3

$$692 + 200 =$$

1 mark

Total for
this page

4

$482 - 165 =$

1 mark

5

$48 \div 8 =$

1 mark

6

$34 \times 4 =$

1 mark

Total for
this page

Total for
this page

8

$$= \frac{8}{1} + \frac{8}{1}$$

7

$$56 \div 4 =$$

Guidance: Children will have 15 minutes for this test.

question	answer	marks
1	123	1
2	417	1
3	892	1
4	317	1
5	6	1
6	136	1
7	14	1
8	$\frac{2}{8}$ or $\frac{1}{4}$	1
		Total 8

4

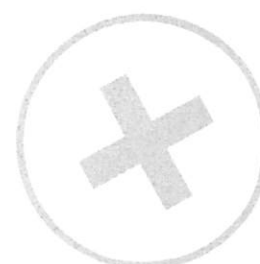
Mathematics

Arithmetic: Test 1a

Year 4



Name	
Date	



5

3




1

[illegible]

1 mark

2



1 mark

3

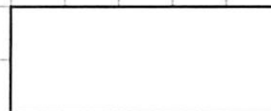
[illegible]

1 mark

Total for
this page

4

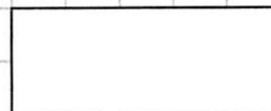
$$\frac{2}{5} + \frac{1}{5} =$$



1 mark

5

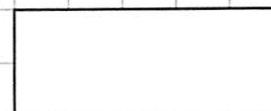
$$6278 - 1000 =$$



1 mark

6

$$4872 + 3761 =$$

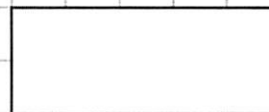


1 mark

Total for
this page

7

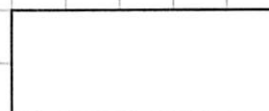
$6 \times 9 =$



1 mark

8

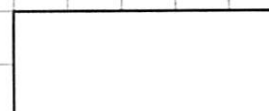
$672 \times 6 =$



1 mark

9

$\frac{7}{8} - \frac{1}{8} =$




1 mark

Total for
this page

10

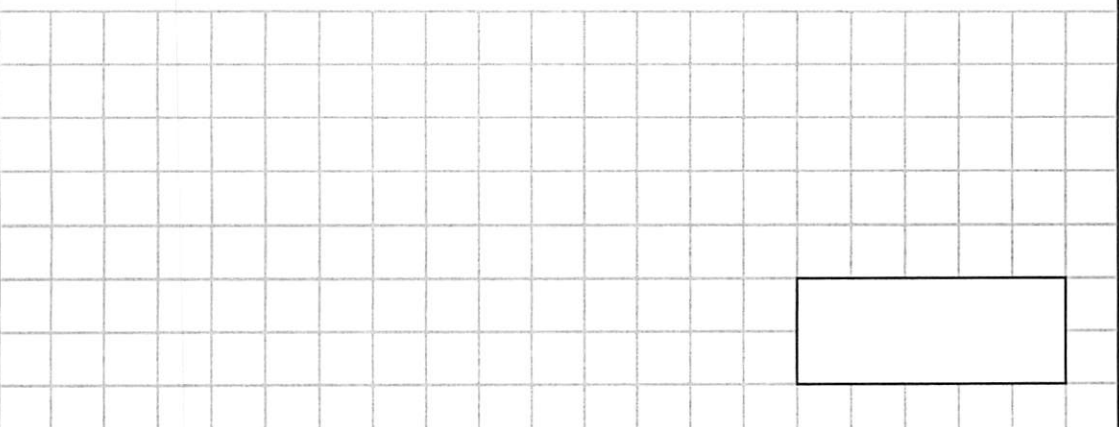
$4.6 + 0.5 =$



1 mark

11

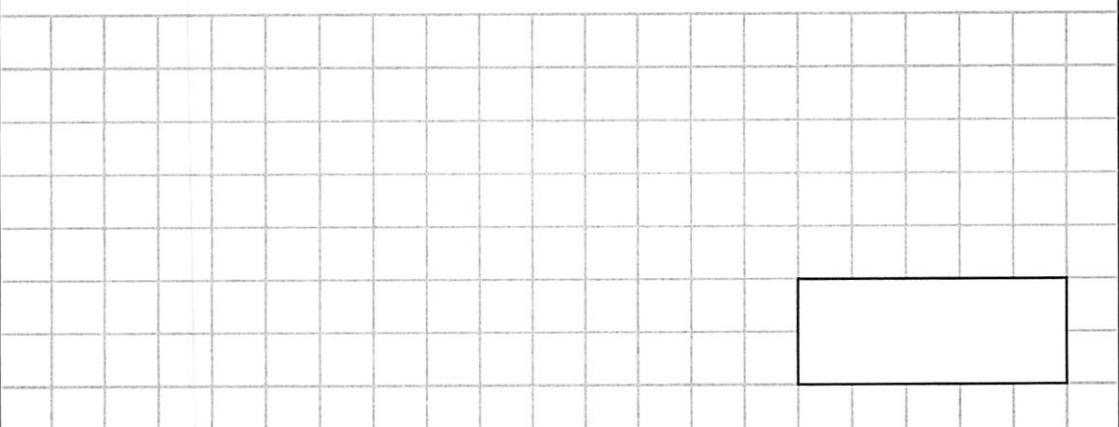
$34 \div 10 =$



1 mark

12

$2.3 - 1.07 =$



1 mark

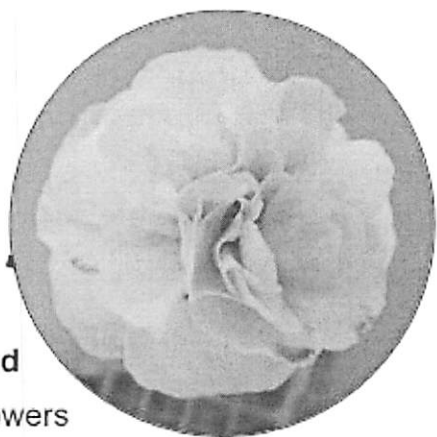
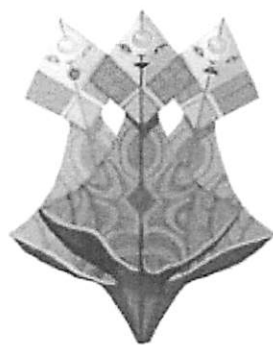

Total for
this page

Guidance: Children will have 15 minutes for this test.

question	answer	marks
1	193	1
2	185	1
3	230	1
4	$\frac{3}{5}$	1
5	5278	1
6	8633	1
7	54	1
8	4032	1
9	$\frac{6}{8}$ or $\frac{3}{4}$	1
10	5.1	1
11	3.4	1
12	1.23	1
		Total 12

Colour your own flowers

Change white flowers into coloured ones without using paint or a brush and learn some science along the way. Which colours are you going to try?



What you'll need

- Fresh white flowers (carnations work well, as do daisies, tulips and roses)
- A container for each colour, preferably a glass jar or similar
- Different food colours (100% natural)
- Water

Like us, plants need water to survive. They draw it through their systems in a very clever way. What happens is that water evaporates from their leaves and petals in a process called transpiration. As this happens, more water is pulled up the plant through a system of tiny tubes in the stem - a bit like when you suck a drink up through a straw.

Usually you can't see this happening, but if you put food colouring in the water, the coloured water will go right up into the leaves and flowers, changing their colour - just like magic!



What to do

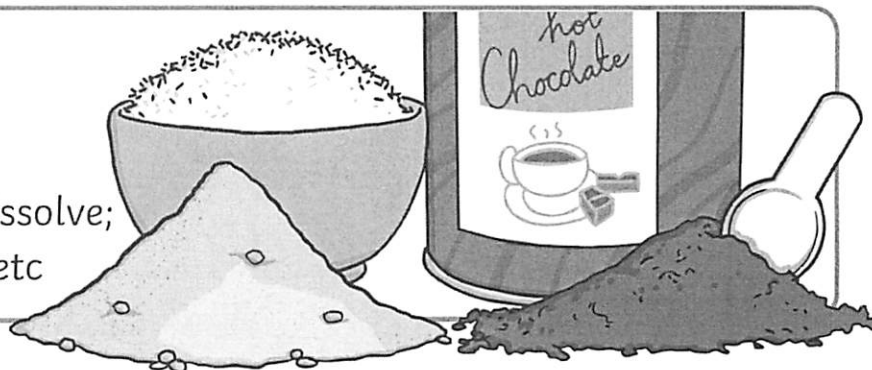
1. Fill each container around half full of water and add a food colouring until you get a strong colour - about ten drops to half a cup of water. Each container should have a different colour but you can mix colours to make new ones
2. Cut off the bottom of each flower stalk to leave around 15-20cm.
3. Put a flower in each of your containers and put it in a safe, sheltered place
4. What do you think will happen to the flowers? How long will it take? (Scientists call this a hypothesis.)
5. Check on your flowers after an hour or so. Do they look the same or different?
6. Leave the flowers overnight and check again. Have they changed? Leave them for longer and see what happens.

Dissolving

Which solids dissolve in water?

You Will Need

- Water (hot and cold)
- Transparent Containers
- Substances to try and dissolve; sand, sugar, salt, coffee etc



Method

- 1 Add a teaspoon of whichever solid you are testing to a glass of cold water and a glass of hot water, stir and observe the difference.
- 2 Look to see if the solid dissolves in the hot water and cold water and if one is better than the other.
- 3 Can you design a chart to record your observation?

The Science Bit

Things like salt, sugar and coffee dissolve in water. They are soluble. They usually dissolve faster and better in hot water. Pepper and sand are insoluble, they will not dissolve even in hot water.

For Older Children

Everything is made of particles which are always moving. When a soluble solid (solute) is mixed with the right liquid (solvent), it forms a solution. This process is called dissolving.

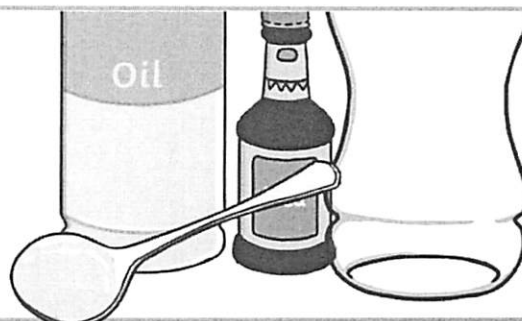
Two things that affect the speed at which the solid dissolves are temperature and the size of the grains of the solid. Caster sugar which is made of fine particles will dissolve quickly, but bigger sugar particles will take longer.

Solids dissolve faster in hot water as in hot water the water molecules are moving faster, so bump into the solid more often which increases the rate of reaction.

Lava Lamp

You Will Need

- Water
- Vegetable Oil*
- A Clear Plastic Bottle or Jar
- Food Colouring
- Effervescent Tablets



* Please dispose of oil safely and responsibly.

Method

- 1 Fill the bottle or jar a quarter full with water.
- 2 Top up, almost to the top with the vegetable oil
- 3 They should separate into two layers, water at the bottom and oil sitting on top.
- 4 Add about 6-8 drops of food colouring once the oil and water separate.
- 5 The colour will mix with the water at the bottom.
- 6 Pop in half an effervescent tablets and watch the bubbles form. Add more effervescent tablets bit by bit to keep the bubbles rising and falling.

The Science Bit

Firstly water and oil will not mix – this is because we say that water is a polar molecule – its structure means that it has a positive charge on one end and a negative charge on the other. Water molecules stick together because the positive end of one water molecule is attracted to the negative end of another. Oil molecule structure is different – it is non polar, meaning that its charge is more evenly spread out, so the oil is not attracted to water – in fact we call it hydrophobic (water fearing) so it tries to get as far away from water as possible and will not mix. The reason that oil rests on top of the water rather than underneath is because it has a different density to water.

As the effervescent tablets are added (this is made of citric acid and sodium bicarbonate) it reacts with the water and forms carbon dioxide gas and sodium citrate. It is the carbon dioxide bubbles that carry the coloured water to the top.

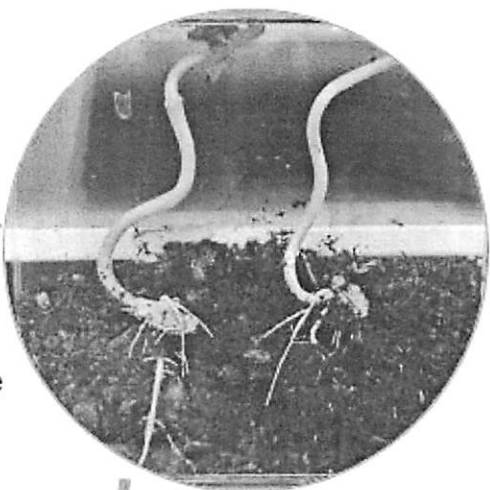
Making a mini greenhouse

It's fun to plant seeds in a pot or a flowerbed and wait for the stems and leaves to appear, but do you know what's really going on under the soil? By planting your seeds in a CD case you'll be able to see how seeds sprout and grow because the case is so thin that the roots won't be hidden under a lot of soil.



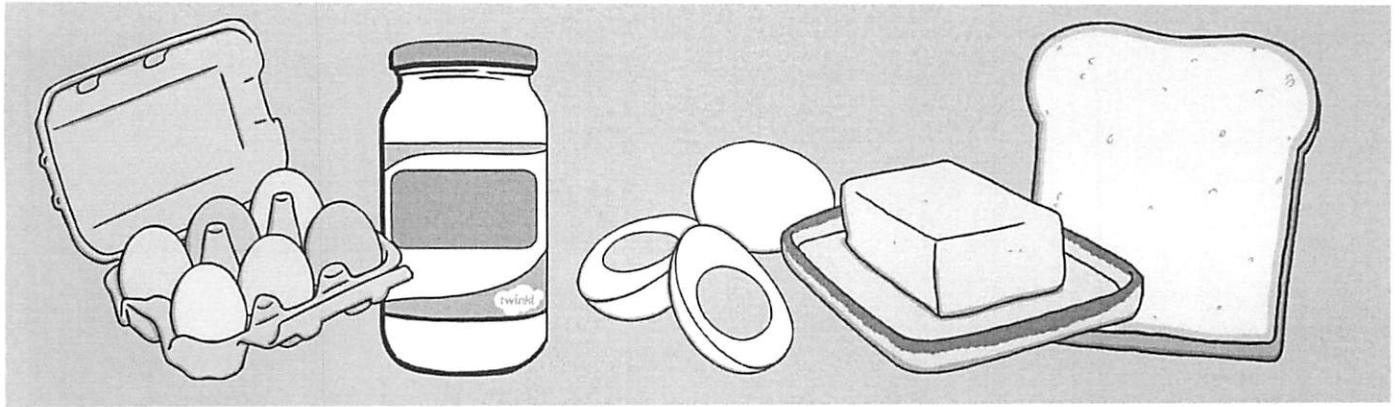
What you'll need

- A clear plastic CD case
- Some soil
- Tape
- Some seeds (beans work well)
- A dropper for watering
- Water

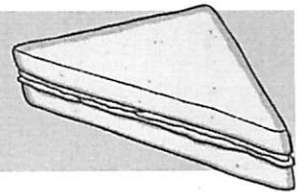


What to do

1. You can grow 2 small or 1 large bean seed in each CD case. Soak the seeds overnight to help them sprout quickly.
2. Take the inner plastic holder out of the case – you don't need it.
3. Mix some soil with a little water until it is damp, but not soaking wet.
4. Put a little of the soil in the CD case at the end opposite the hinge so that it is about one-third full. The hinge will be at the top of your mini greenhouse. Place the seed(s) about halfway down the soil.
5. Close the CD case and tape up the sides but not the hinged end.
6. Place your mini greenhouse on a sunny windowsill and water the soil a little bit every day or so using the dropper through the gap at the hinge.
7. Watch your seedlings grow. When they get too big for the greenhouse you can move them to a small flowerpot.



Egg Mayonnaise Sandwiches



Ingredients

4 hard boiled eggs
(prepared in advance)
6-8 tbsp mayonnaise
butter for spreading
4-6 slices bread (white,
wholemeal or both)

tip: you could add
watercress to these
sandwiches, to do this you
will need one large bunch.

Equipment

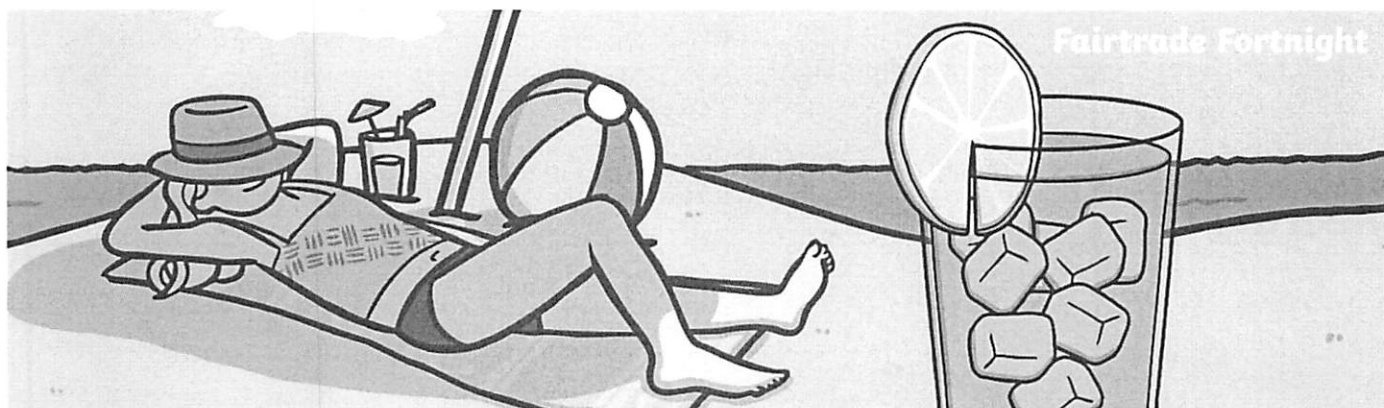
Small bowl

Fork

Knife (Sharp enough to
cut bread)

Method

1. Peel the eggs and put into the small bowl. Crush the eggs into small pieces using the back of your fork. Add the mayonnaise.
2. Butter your slices of bread. If you want, you can remove the crusts using the knife.
3. Spread half of the bread with the egg mayonnaise mixture and then put the other slices of bread on top to sandwich them together. If you chose to add watercress, put this in after the egg mayonnaise mixture.
4. To serve, you can either cut the sandwiches in half or into triangles.



How to Make Lemonade

Ingredients

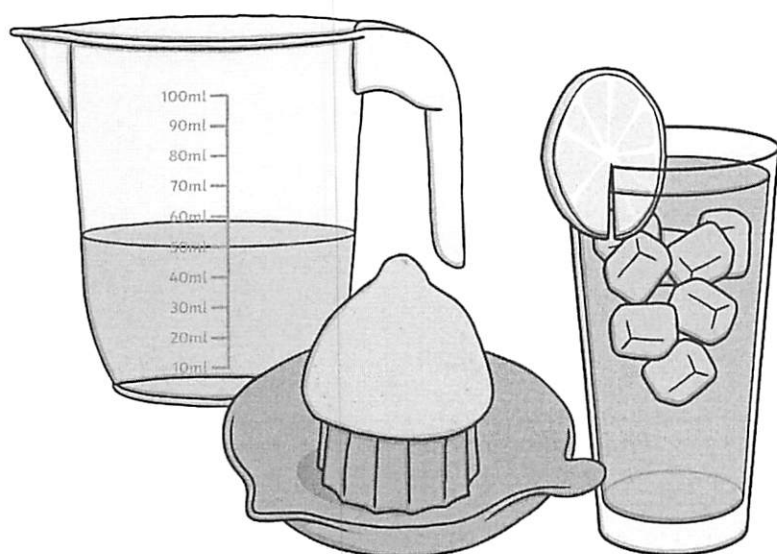
6 lemons

200g Fairtrade Sugar

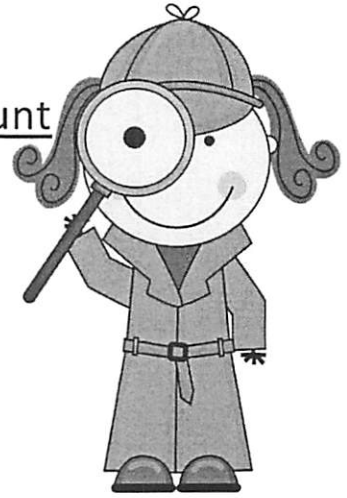
1.5l of water

Method

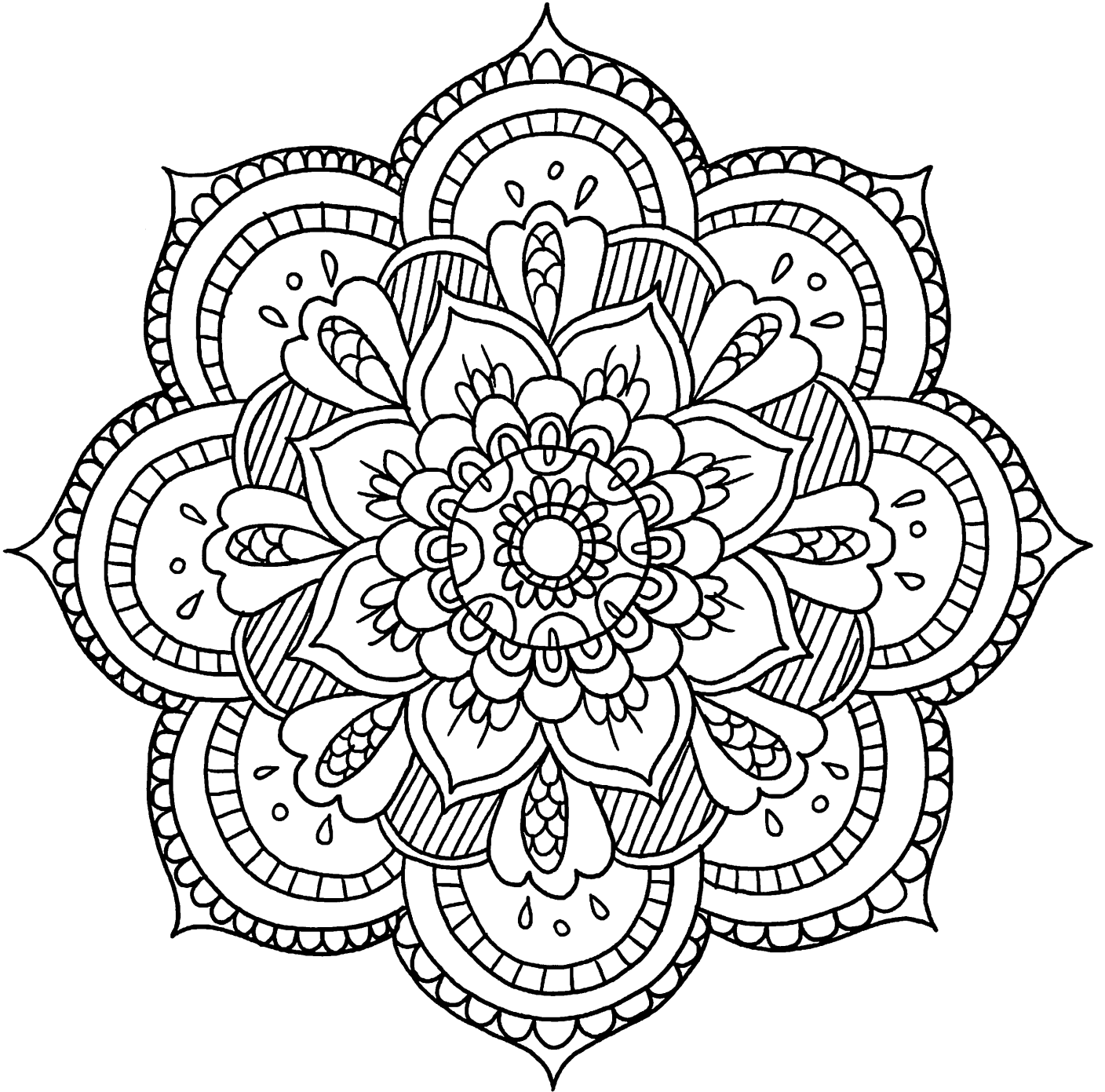
1. Juice the lemons to make as much juice as you can. To make job easier, roll the lemons firmly on a work surface, pushing down with the heel of your hand before cutting in half and juicing.
2. Mix all the ingredients in a big jug and adjust the amounts until you have a flavour you are happy with. Continue stirring until all the sugar is dissolved.
3. Chill and serve with ice. Enjoy the taste of Fairtrade!

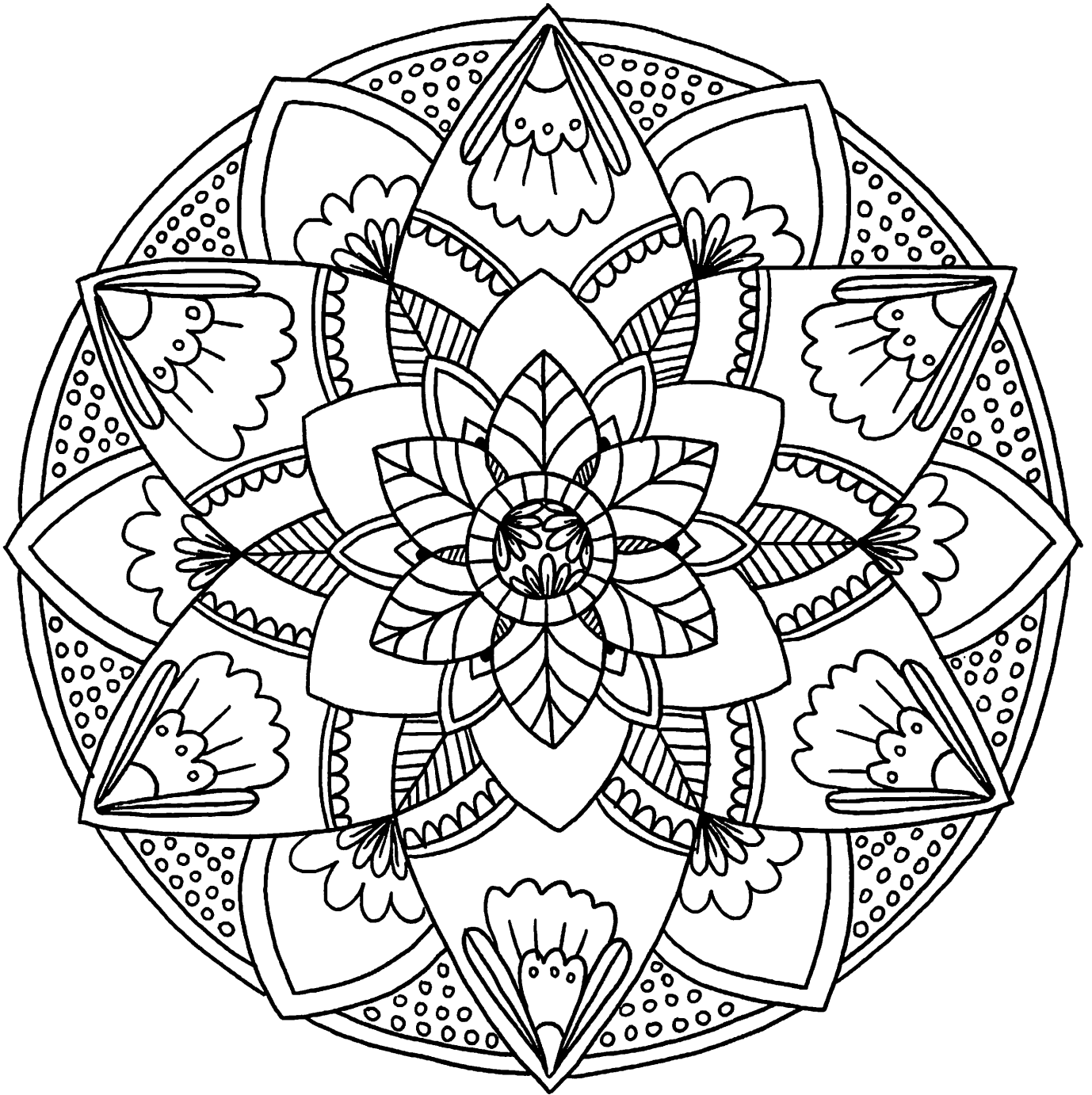


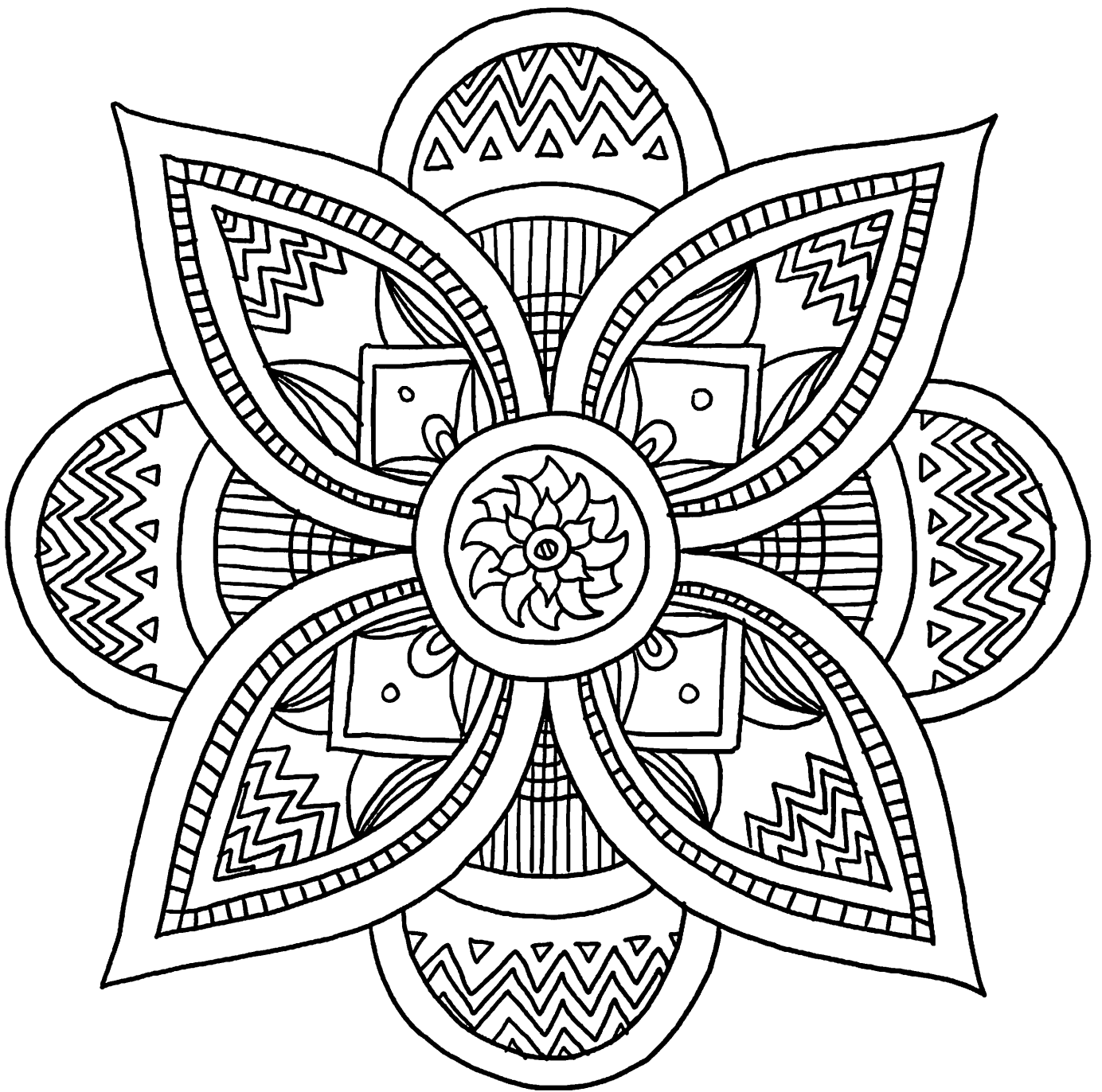
Around the house Scavenger hunt

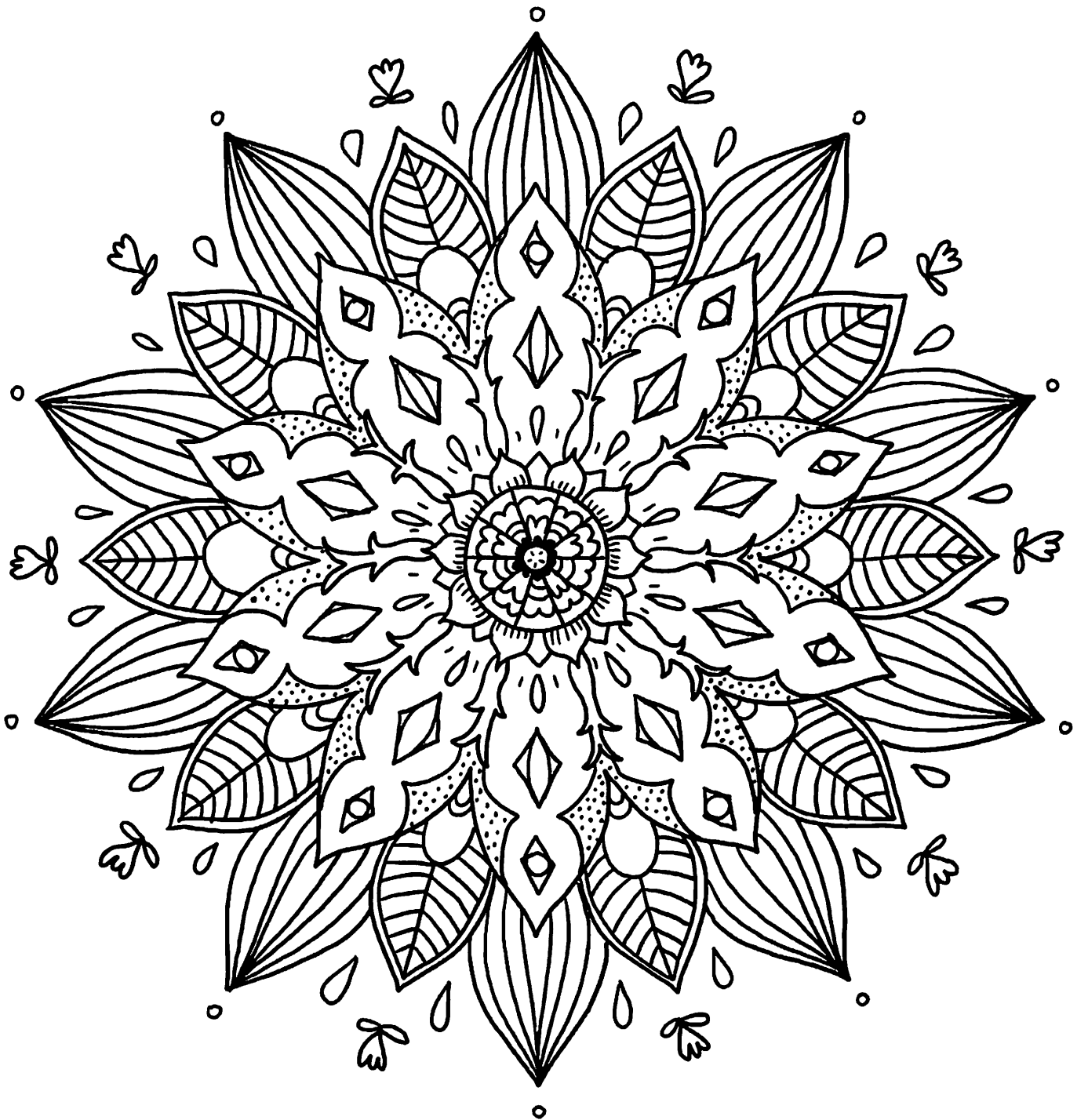


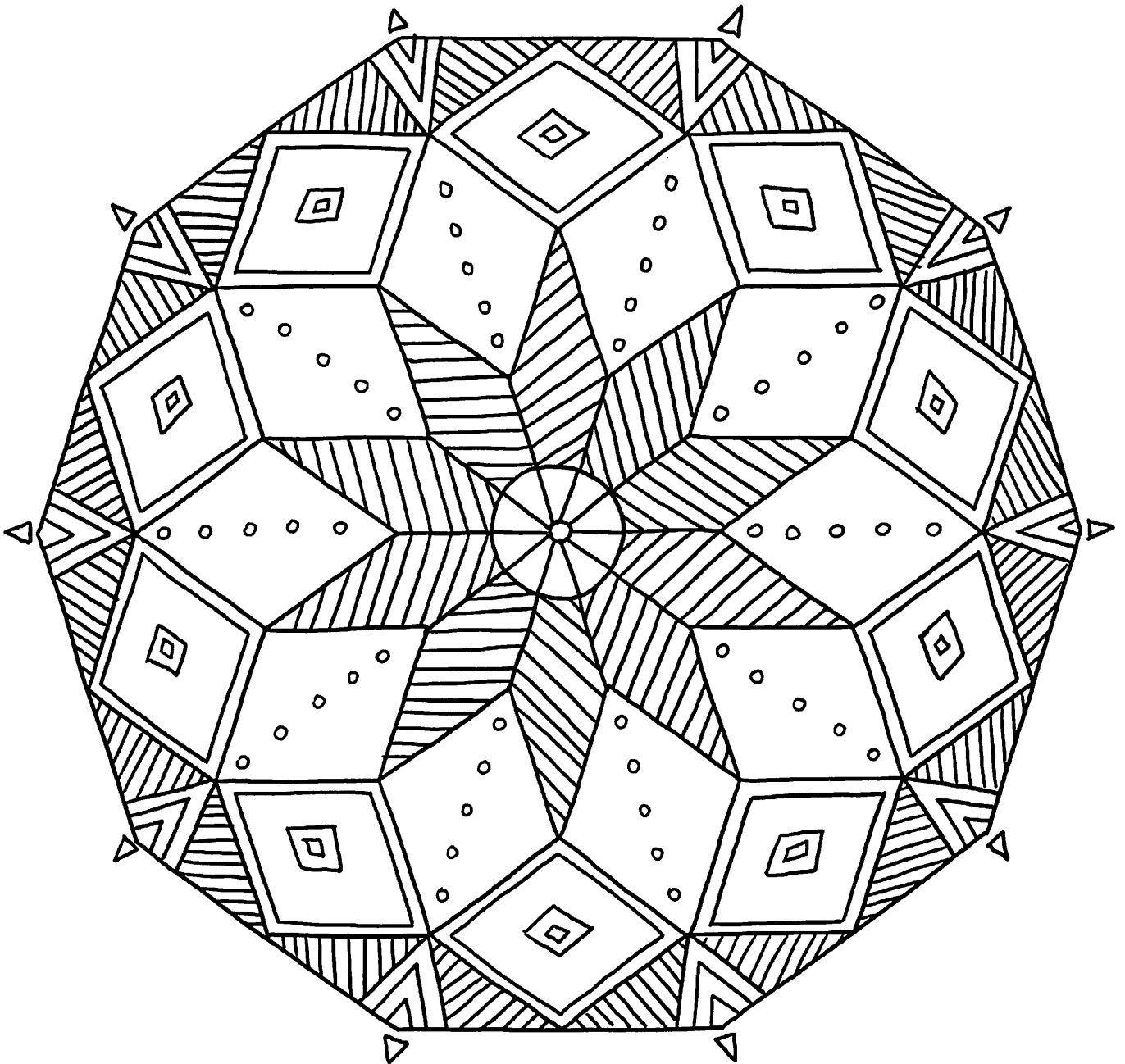
- Find something that is soft.
- Find something that is hard.
- Find something that is shiny.
- Find something that is stretchy.
- Find something that is see-through.
- Find something that is liquid.
- Find something that is natural.
- Find something that is bendy.
- Find something that is spikey.
- Find something that is smooth.
- Find something that is bumpy.
- Find something that is rough.
- Find something that is water-proof.
- Find something that is metal.
- Find something that is made of wood.
- Find something that is made of rock.
- Find something that is glass.
- Find something that is plastic.
- Find something that is fabric.











Wellbeing Craft - Things to Look Forward To Jar

Use these craft instructions to create your own wellbeing jar. Having things to look forward to can make you feel happier and improve your wellbeing. Each time you think of something you would like to do in the future, write it on a piece of paper and place it inside your decorated jar.

You will need:

- glass or plastic jar
- scissors
- paintbrush
- white glue
- sticky label or strip of paper
- tissue paper or colored paper
- pencil
- paper to record the things you are looking forward to



Instructions



Cut shapes out of the colorful paper or tissue paper.



Write a label for your jar. You could write "Things to Look Forward To."



Use the paintbrush to put some glue onto the jar.



You can use white glue to paint over the top of the shapes on your jar and the label. This will give it a nice, shiny effect.



Stick the paper shapes carefully onto the jar.



Once dry, your jar is ready to use. Write things that you are looking forward to on pieces of paper and place them into your decorated jar.