Name ..... Date .....

Year 3 · Science · Mixing materials · 2.3 Dissolving

Soluble or Insoluble?

Some solids dissolve in water and some do not. Let's find out which is which!

1 Draw a line to match each science word to what it means.

4 marks

dissolve	you can see through it
soluble	it can dissolve in water
insoluble	a solid spreads through a liquid and seems to disappear
transparent	it cannot dissolve in water

2 Draw a ring around the **two** solids that dissolve in water.

2 marks

sugar · **sand** · **salt** · **pebbles** · **rice** · **chalk**

3 Tick (✓) **true** or **false** for each sentence.

4 marks

	true	false
When sugar dissolves, it is still in the water.	☐	☐
Sand dissolves in water.	☐	☐
You can see the salt grains after salt dissolves.	☐	☐
Sugar water can be transparent.	☐	☐

4 Fill in the gaps. Use the words in the box.

2 marks

soluble · **insoluble**

Sugar is _____ in water.

Sand is _____ in water.

5 Sort these solids into the table. 3 marks

sugar · salt · sand · rice · pebbles · chalk

Soluble	Insoluble

6 Amina stirs a spoon of salt into a glass of water. After one minute she cannot see the salt. Where has the salt gone? 2 marks

7 Marcus says, "The sugar has disappeared, so it is not there any more." Do you agree? Explain how you could show that the sugar is still there. 2 marks

8 Kofi wants the sugar in his tea to dissolve quickly. Write **one** thing he could do. 1 mark

9 Draw a ring around the word that makes the sentence true. 1 mark

When salt dissolves in water, the water looks

cloudy **clear**

10 Nia stirs a spoon of sand into a glass of water. Then she waits for 5 minutes. Draw what the glass looks like now. 2 marks

11 Is chalk soluble or insoluble? Describe how you could test it. 2 marks

12 Write a question you could investigate about dissolving. 1 mark

13 Zawadi has a mixture of sand and salt. How could she use water to get the sand and the salt apart? Write the steps. 3 marks

Did you know? The sea is salty because rain slowly dissolves tiny bits of salt from rocks. Rivers carry the salt all the way to the sea.

How did I do?

Easy Okay Tricky

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Soluble or Insoluble? Answers

Answers and marks for every question.

1	dissolve → a solid spreads through a liquid and seems to disappear; soluble → it can dissolve in water; insoluble → it cannot dissolve in water; transparent → you can see through it	4
2	sugar and salt	2
3	true, false, false, true	4
4	Sugar is soluble. Sand is insoluble.	2
5	Soluble: sugar, salt. Insoluble: sand, rice, pebbles, chalk. (3 marks: all six right; 2 marks: four or five; 1 mark: two or three)	3
6	It has dissolved (1). It is still in the water, in pieces too small to see (1).	2
7	No, the sugar is still in the water (1). Leave the sugar water in a warm, sunny place: when the water dries up, the sugar is left behind (or: it still tastes sweet, but only taste with an adult in a clean kitchen) (1).	2
8	Stir it; or use hot tea; or use smaller grains of sugar instead of a cube. Any one.	1
9	clear	1
10	The sand has sunk to the bottom (1) and the water above it is clear or nearly clear (1).	2
11	Insoluble (1). Crush a little chalk, stir it into water and look: the chalk does not disappear; it sinks or makes the water cloudy (1).	2
12	Any testable question, e.g. Does sugar dissolve faster in warm water than in cold water? Which liquids will salt dissolve in?	1
13	Add water and stir: the salt dissolves but the sand does not (1). Pour the mixture through a filter (paper or a clean cloth): the sand stays in the filter (1). Leave the salty water in a warm place: the water dries up and the salt is left (1).	3