REACH ASSESSMENTS™ ICAS ASSESSMENTS™

PAPER F

PRACTICE QUESTIONS

Note: Some UNSW Global assessments are only available online.

Science

DO NOT OPEN THIS BOOKLET UNTIL INSTRUCTED.

Read the instructions on the **ANSWER SHEET** and fill in your **NAME**, **SCHOOL** and **OTHER INFORMATION**.

Use a pencil. Do **NOT** use a coloured pencil or a pen.

Rub out any mistakes completely.

You **MUST** record your answers on the **ANSWER SHEET**.

Mark only **ONE** answer for each question.

Your score will be the number of correct answers.

Marks are **NOT** deducted for incorrect answers.

Use the information provided to choose the **BEST** answer from the four possible options.

On your **ANSWER SHEET** fill in the oval that matches your answer.

You may use a calculator and a ruler.

UNSW Global

1. The following flow chart can be used to distinguish between some elements.

   Element Y is sulfur and element X is carbon.

```
                          non-metal
                        /           \
                     gas            not a gas
                    /    \          /        \
               green   colourless conductor  insulator
                 |       /    \       |        /      \
                 |    inert flammable |    yellow   not yellow
                 |      |     |       |      |         |
                 |      |     |       |      |         |
                 U    V       W       X      Y         Z
```
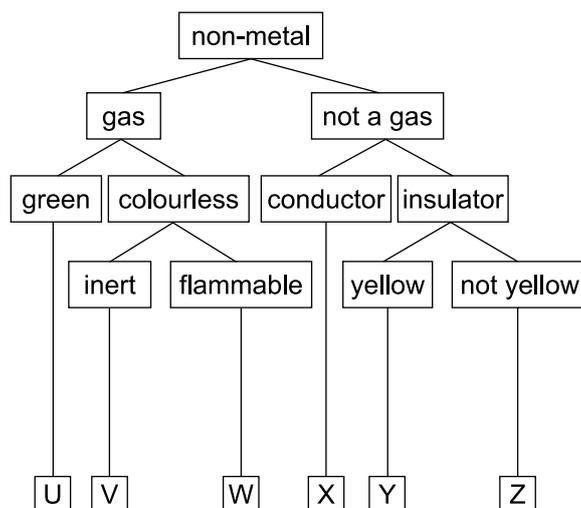
Which feature is used in the key to distinguish between them?

(A)   Carbon is black and sulfur is yellow.
(B)   Carbon is a conductor and sulfur is an insulator.
(C)   Carbon is a gas and sulfur is not a gas.
(D)   Sulfur burns with a flame and carbon glows red hot.

For questions 2 and 3 use the information below.

The diagram shows the sizes of some deep-sea sediments.

Grain size (mm)

| 100 | 10 | 2 | 1 | 0·1 | 0·062 | 0·01 | 0·004 | 0·001 |

Gravel ← → Sand ← Silt → Clay

Mud

Shark's teeth

Whales' ear bones

Fish skeletal debris

Radiolaria

Silicoflagellates

Foraminifera

Pteropods

Sponge spicules

Diatoms

Coccoliths

Foraminiferal mud

Cosmogenous particles

Diatomaceous mud

Deep-sea clay

Volcanic sediments
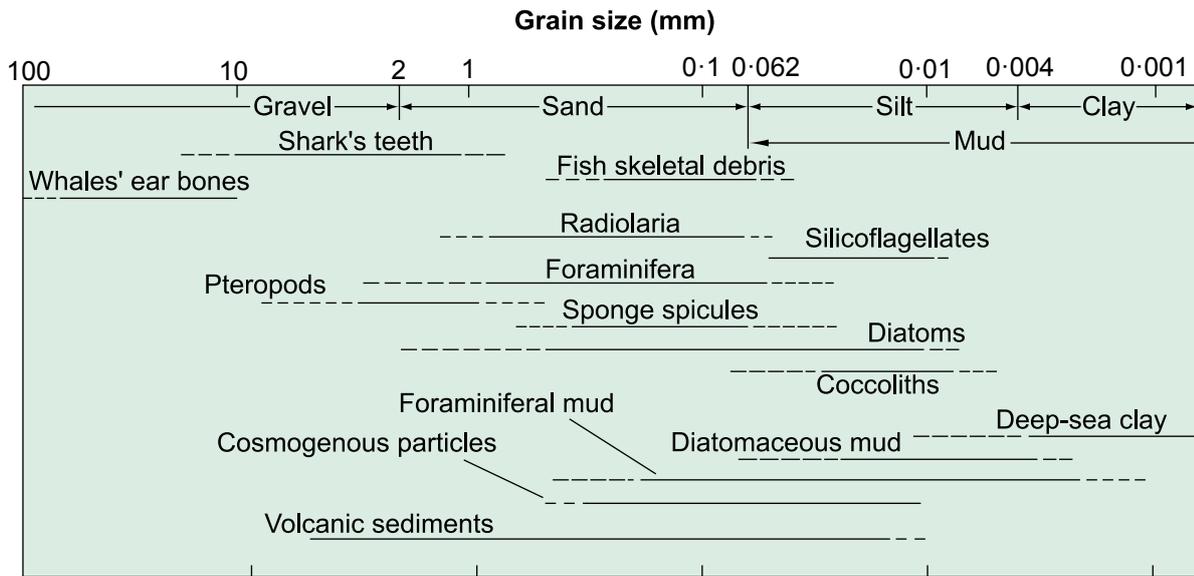
2. Which sediment is likely to completely pass through a sieve with mesh size 0.1 mm?

    (A)   coccoliths   (B)   radiolaria
    (C)   diatoms   (D)   pteropods

3. Which sediments would be hardest to separate from each other using sieves?

    (A)   whales' ear bones and shark's teeth
    (B)   radiolaria and sponge spicules
    (C)   silicoflagellates and pteropods
    (D)   diatoms and pteropods

For questions 4 and 5 use the information below.

Reports about science experiments often include:

- a title
- an introduction
- an aim
- a method of how the experiment was to be carried out
- results (what was observed)
- a discussion of the results
- a conclusion

A student wrote a report containing a number of points.

1) 'Which liquid is the most viscous?'
2) The viscosity of the liquid is how 'thick' it is. The more viscous the liquid, the slower the marble will pass through it.
3) To determine the most viscous: honey, oil or water.
4) Set up three identical jars filled with the different liquids.
5) Drop a marble in each jar at the same time and record the marble's position after one second.
6)

| honey | oil | water | honey | oil | water |

time = 0 seconds   **time = 1 second**
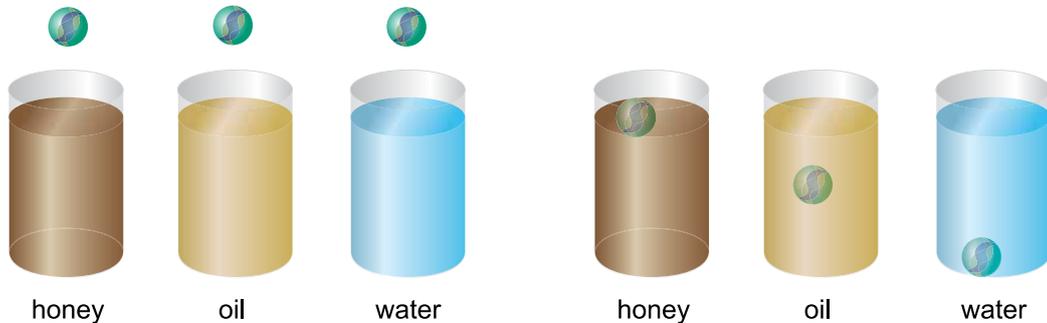
7) The marble in the honey was near the top of the jar while the marble in the water was at the bottom of the jar.
8) Water was the most viscous liquid tested.

4. Which points are the student's results?

(A) 4 and 5
(B) 5 and 6
(C) 6 and 7
(D) 7 and 8

5. Was the student's conclusion correct? Why?

	Conclusion correct?	Reason
(A)	no	The marble went through the water the slowest.
(B)	yes	The marble went through the water the slowest.
(C)	yes	The marble went through the honey the slowest.
(D)	no	The marble went through the honey the slowest.

END OF PAPER

HOW TO FILL OUT THIS SHEET:

USE A PENCIL

- Print your details clearly in the boxes provided.
- Make sure you fill in only <u>one</u> oval in each column.
- Rub out all mistakes completely.
- Do not use a coloured pencil or pen.

EXAMPLE 1: _Debbie Bach_

FIRST NAME	LAST NAME
D E B B I E	B A C H

EXAMPLE 2: _Chan Ai Beng_

FIRST NAME	LAST NAME
C H A N	A I B E N G

EXAMPLE 3: _Jamal bin Abas_

FIRST NAME	LAST NAME
J A M A L B I N	A B A S

FIRST NAME to appear on certificate

LAST NAME to appear on certificate

SAMPLE

Are you male or female? ◯ Male ◯ Female

Does anyone in your home usually speak a language other than English? ◯ Yes ◯ No

School name: _____

_____

Town / suburb: _____

Today's date: _____ / _____ / _____ **Postcode:** _____

DATE OF BIRTH
Day Month Year

STUDENT ID (optional)

CLASS (optional)

TO ANSWER THE QUESTIONS

Example:

Ari added cordial to water to make a jug of drink. What will be the volume of the drink in the jug?

(A)   50 mL
(B)   150 mL
(C)   200 mL
(D)   250 mL
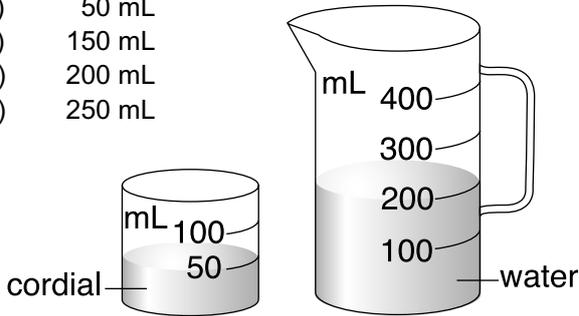
The answer is 250 mL, so you would fill in the oval Ⓓ, as shown.

Ⓐ   Ⓑ   Ⓒ   ⬤

**USE A PENCIL
DO NOT USE A COLOURED PENCIL OR PEN**

START

1 Ⓐ   Ⓑ   Ⓒ   Ⓓ

2 Ⓐ   Ⓑ   Ⓒ   Ⓓ

3 Ⓐ   Ⓑ   Ⓒ   Ⓓ

4 Ⓐ   Ⓑ   Ⓒ   Ⓓ

5 Ⓐ   Ⓑ   Ⓒ   Ⓓ

SAMPLE

QUESTION	KEY	KEY REASONING	LEVEL OF DIFFICULTY
1	B	From the flow chart, both sulphur and carbon are non-metals, neither of them is a gas but one of them is a conductor and the other an insulator. Black is not in the key, so A is wrong. Carbon is a solid, so C is wrong. How they burn is not in the key, so D is wrong.	Easy
2	A	To completely pass through a sieve with a mesh size 0.1 mm, the sediments must be smaller than 0.1 mm. Of the four sediments listed only coccoliths are completely smaller than 0.1 mm (0.1 mm > size of coccolith > 0.004 mm).	Medium/Hard
3	B	If the sediments are similar in size, they would be difficult to separate using sieves. The greater percentage of overlap, the more difficult they would be to separate with a sieve. The greatest percentage of overlap occurs between radiolaria and sponge spicules.	Medium/Hard
4	C	Results are 'observations' made using our five senses, particularly sight. We can see the marbles above the jars at time = 0 s, and we can see the jars with the marbles in them at t = 1 s, at different positions within the liquids. So point 6 and point 7 of the report are observations. Note that which liquid is the most or least viscous is an inference which is based on observations. It itself is not an observation.	Medium/Hard
5	D	The more viscous the liquid, the slower the marble will pass though it. After 1 s the slowest marble will have moved the smallest distance. This occurs in honey; therefore, it is the most viscous of these liquids.	Medium/Hard

LEGEND

Level of difficulty refers to the expected level of difficulty for the question.

Easy   more than 70% of candidates will choose the correct option.

Medium   about 50–70% of candidates will choose the correct option.

Medium/Hard   about 30–50% of candidates will choose the correct option.

Hard   less than 30% of candidates will choose the correct option.

THE FOLLOWING YEAR LEVELS SHOULD SIT THIS PAPER	
Australia[1]	Year 8
Brunei	Form 2 & 3
Egypt	Year 8
Hong Kong	Form 2
Indian Subcontinent[2]	Class 8
Indonesia	Year 9
Malaysia	Form 2
Middle East[3]	Class 8
New Zealand/ Pacific[4]	Year 9
Singapore	Secondary 1
Southern Africa[5]	Grade 8

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