



Science Locked Room

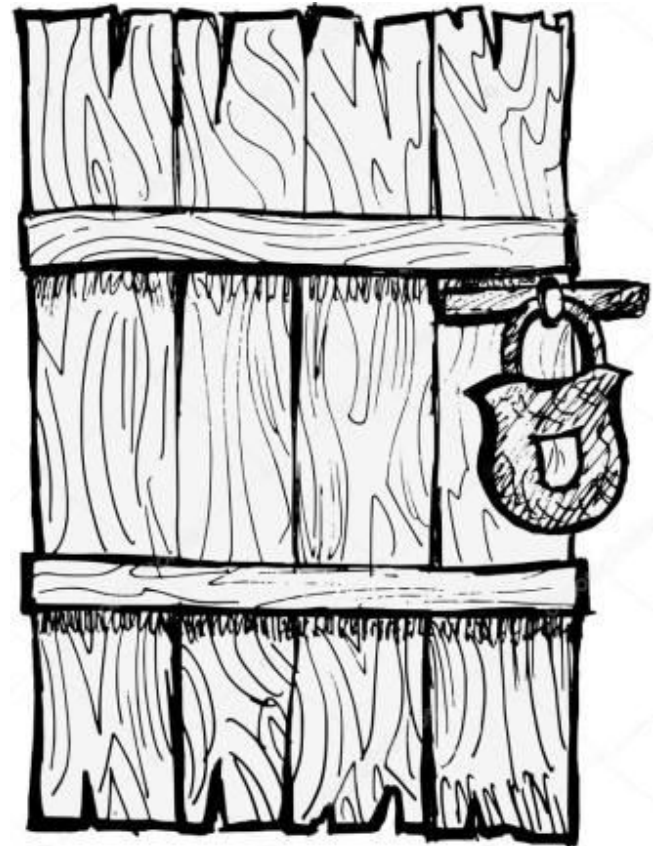
Digital Link: <https://forms.gle/7UpnGUYyv6q8FtJg6>

The science prep room at Appleton Academy is where all of the science equipment is kept that we use to do lots of different science investigations.

You will find our technicians Mr Williams and Mr Todd working in here getting practicals ready for different classes to complete.

As well as equipment like beakers and Bunsen burners, dangerous chemicals are also stored in the prep room so it is always kept locked to make sure everything is safe.

A power cut at the academy has caused the digital locks to be reset and team science needs your help to get back into the prep room!





Your Challenge...

Team Science needs your help to open up the locks on the prep room so we can get back to doing our science investigations!

You will need to complete each level of the puzzle to figure out the five different lock codes.

Instructions

- Answer the four questions in the level you are working on
- Write down your answers in order from question 1 to question 4
- After the four questions in each level is a decoder.
- **Use the decoder for each level to convert your four letters into a four digit code. (Do not rearrange your answers)**
- Enter the code into the form here <https://forms.gle/7UpnGUYyv6q8FtJg6>
- If your code is correct, move onto the next level.
- If your code is incorrect, go back and double check your answers.

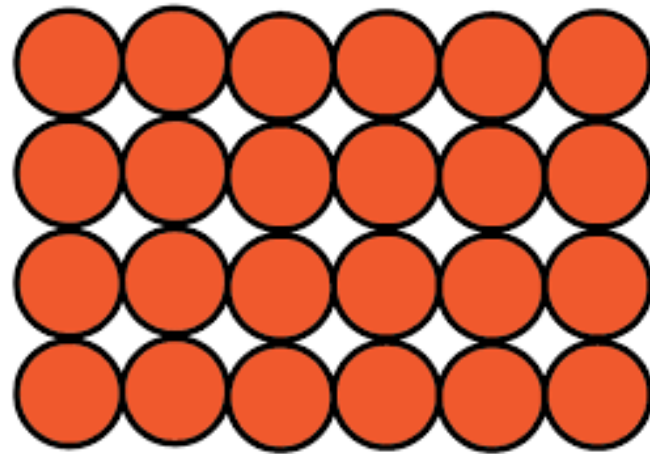


Level 1

Q1

What state of matter is shown in the diagram?

- a) solid
- b) liquid
- c) gas
- d) metal





Level 1

Q2

What is the definition of soluble?

- a) A substance that is clear
- b) A substance that is sticky
- c) A substance that cannot dissolve in water
- d) A substance that can dissolve in water



Level 1

Q3

What pH will something that is acidic have?

- a) pH 1-3
- b) pH 1-6
- c) pH 8-11
- d) pH 12-14



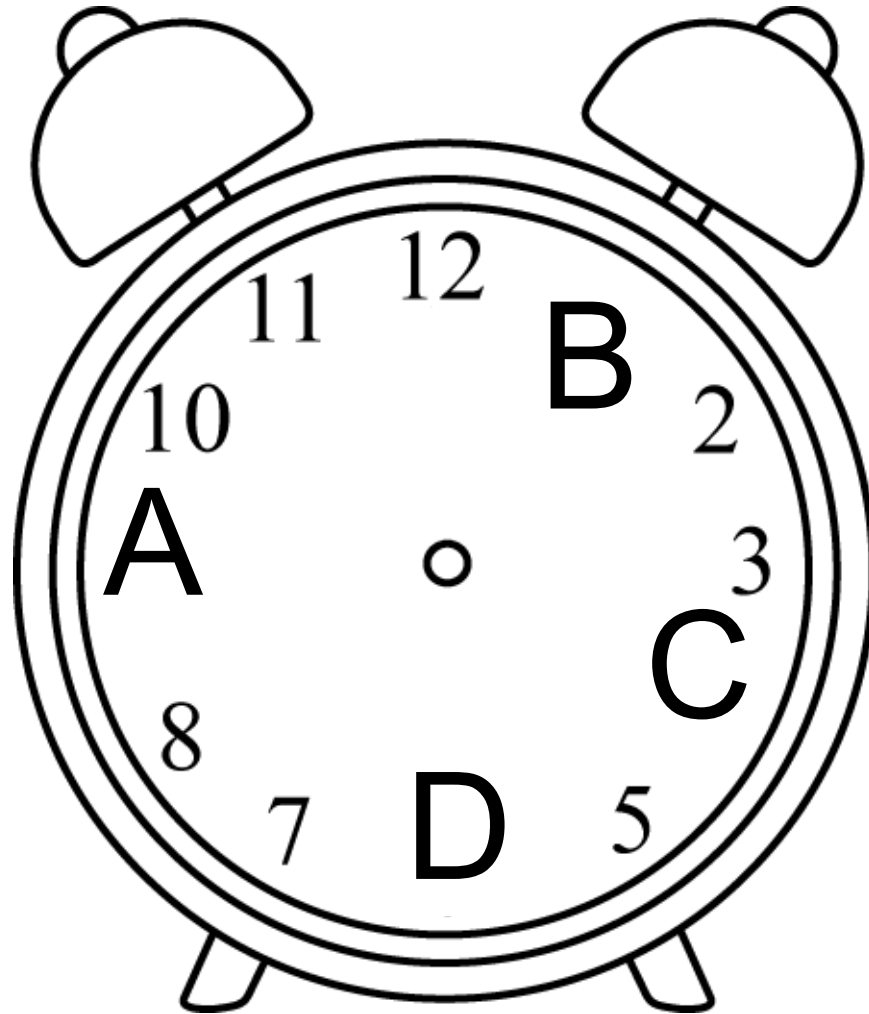
Level 1

Q4

What method of separation can be used to get a solid back from a solution?

- a) filtration
- b) distillation
- c) evaporation
- d) boiling

Level 1





Level 2

Q1

What key term describes differences between different organisms?

- a) adaptation
- b) variation
- c) reproduction
- d) vaccination



Level 2

Q2

What do the arrows in a food chain represent?

- a) The movement of energy from what is being eaten to what is eating it
- b) The movement of energy from what is eating something to what is being eaten
- c) What eats what
- d) The organisms that are getting bigger



Level 2

Q3

What feature protects animals from predators by allowing them not to be seen?

- a) Large surface area
- b) Prickly spines
- c) Camouflage
- d) A hump that stores fat



Level 2

Q4

Polar bears live in very cold conditions. Why do they have thick fur?

- a) So they blend in with the snow
- b) So that they can swim fast
- c) To keep them warm
- d) To help them catch prey

Level 2



A

B

C

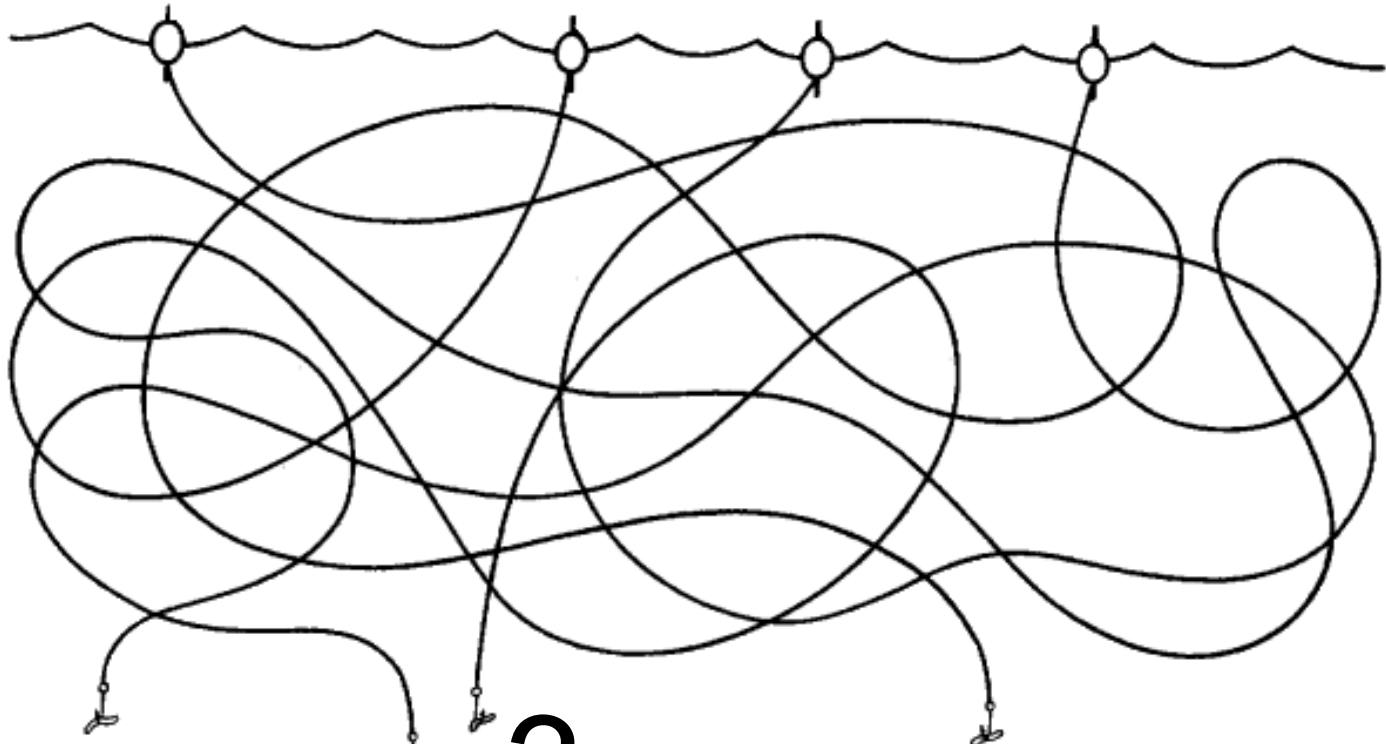
D

1

2

3

4

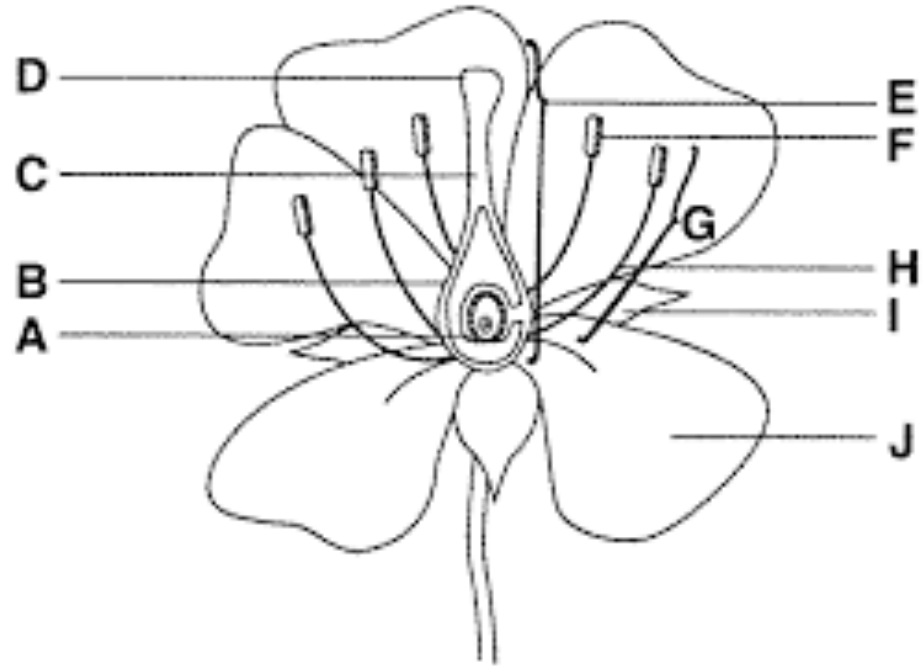


Level 3

Q1

Which part of the diagram is shown by the label D ?

- a) stigma
- b) anther
- c) style
- d) stamen

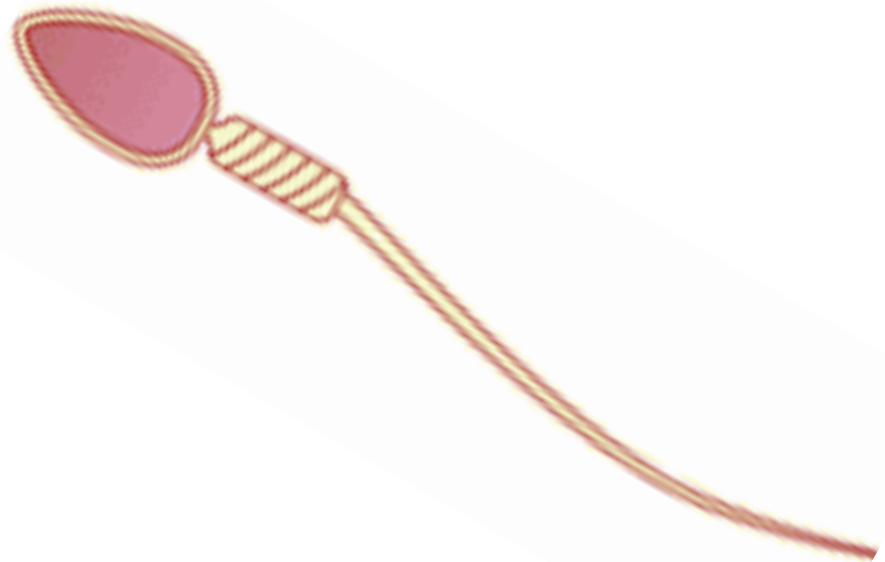


Level 3

Q2

Name the type of cell shown in the diagram.

- a) Egg cell
- b) Plant cell
- c) Muscle cell
- d) Sperm cell





Level 3

Q3

What is the correct definition of fertilisation?

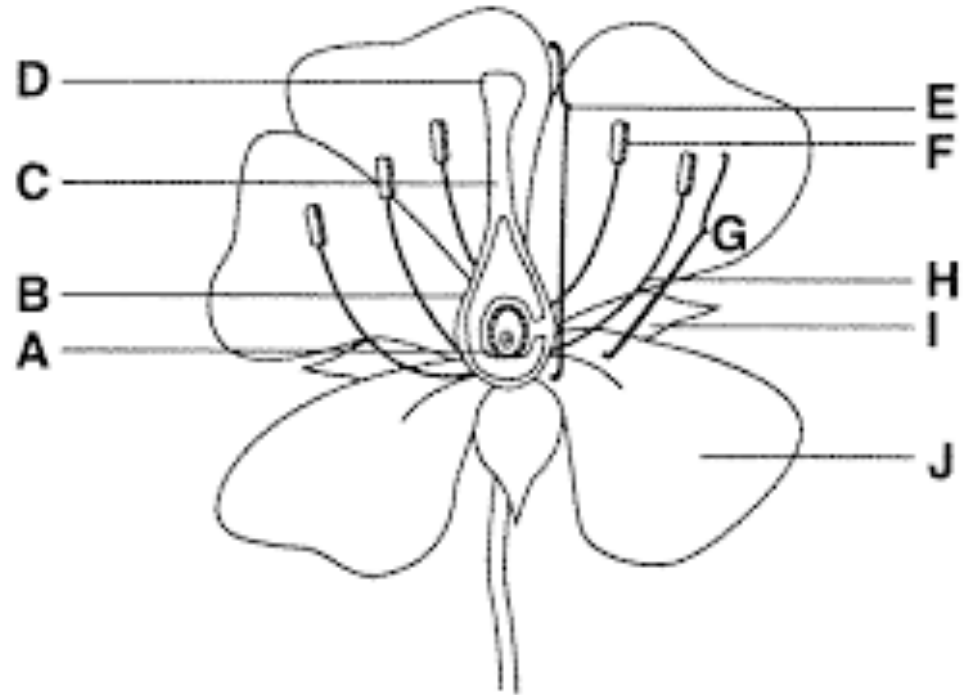
- a) When a baby is made
- b) When a sperm and egg cell fuse together
- c) When two sperm cells fuse together
- d) When an egg cell is released from the ovary

Level 3

Q4

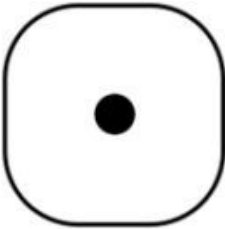

Which part of the flower is the label G?



- a) Stigma
- b) Anther
- c) Style
- d) Stamen

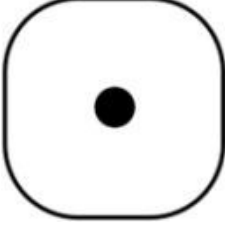
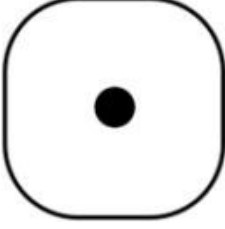



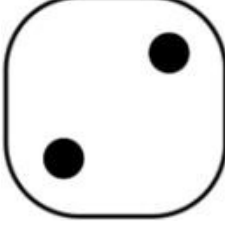


Level 3

A =  

B =  

C =  

D =  



Level 4

Q1

Electricity is the flow of what subatomic particle?

- a) Protons
- b) Electrons
- c) Neutrons
- d) All of the above

Level 4

Q2

What instrument is used to measure electric current?

- a) Electroscope
- b) Electrometer
- c) Ammeter
- d) Voltmeter



Level 4

Q3

In a circuit diagram, what does the symbol below represent?

- a) Battery
- b) Motor
- c) Switch
- d) Bulb

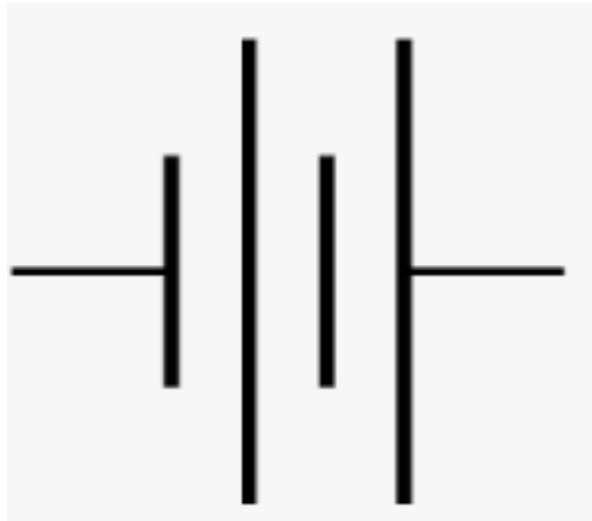


Level 4

Q4

In a circuit diagram, what does the symbol below represent?

- a) Battery
- b) Motor
- c) Switch
- d) Bulb










Level 4





A B C D

Q1

| | | | |
|---|---|--|---|
|  |  |  |  |
|---|---|--|---|





 = 6


Q2

| | | | |
|---|---|--|---|
|  |  |  |  |
|---|---|--|---|





 = 2


Q3

| | | | |
|--|--|---|--|
|  |  |  |  |
|--|--|---|--|

 = 7

Q4

| | | | |
|---|---|--|---|
|  |  |  |  |
|---|---|--|---|

 = 8



Level 5

Q1

What is the name for a material that allows heat and electricity to pass through it?

- a) Conductor
- b) Insulator
- c) Metal
- d) Non-Metal



Level 5

Q2

Which statement below describes some common properties of metals?

- a) Dull, brittle, good insulators
- b) Shiny, malleable, good conductors
- c) Shiny, brittle, good conductors
- d) Dull, malleable, good insulators



Level 5

Q3

Which key term describe the change of state when a gas turns into a liquid?

- a) Melting
- b) Freezing
- c) Evaporation
- d) Condensation



Level 5

Q4

Which statement correctly describes the method for separating sand, salt and water?

- A. You cannot separate sand, salt and water.
- B. You need to filter the mixture to get sand salt and water.
- C. You need to filter the mixture to separate the sand, then evaporate the water to separate the salt.
- D. You need to boil the mixture to separate the water and then you can separate the salt and sand.



Level 5

| | | | | |
|---|---|---|---|---|
| 1 | + | 3 | = | A |
| + | | + | | + |
| 2 | + | C | = | 3 |
| = | | = | | = |
| D | + | 4 | = | B |

Answers

Name _____



Level 1

Codes
Answers

| | | | |
|---------|---------|---------|---------|
| Q1 | Q2 | Q3 | Q4 |
| Digit 1 | Digit 2 | Digit 3 | Digit 4 |

Level 2

Codes
Answers

| | | | |
|---------|---------|---------|---------|
| Q1 | Q2 | Q3 | Q4 |
| Digit 1 | Digit 2 | Digit 3 | Digit 4 |

Level 3

Codes
Answers

| | | | |
|---------|---------|---------|---------|
| Q1 | Q2 | Q3 | Q4 |
| Digit 1 | Digit 2 | Digit 3 | Digit 4 |

Level 4

Codes
Answers

| | | | |
|---------|---------|---------|---------|
| Q1 | Q2 | Q3 | Q4 |
| Digit 1 | Digit 2 | Digit 3 | Digit 4 |

Level 5

Codes
Answers

| | | | |
|---------|---------|---------|---------|
| Q1 | Q2 | Q3 | Q4 |
| Digit 1 | Digit 2 | Digit 3 | Digit 4 |