Week 4: Day 4

WALT: Can I count in fractions?

Fluency

1) $\frac{6}{9}$ $\frac{7}{9}$ $\frac{9}{9}$ $\frac{11}{9}$ $\frac{13}{9}$ $\frac{14}{9}$

$\frac{6}{9}$ $\frac{7}{9}$ $1\frac{1}{9}$ $1\frac{6}{9}$

2) $\frac{6}{7}$ $\frac{7}{7}$ $\frac{8}{7}$ $\frac{11}{7}$ $\frac{15}{7}$

$\frac{6}{7}$ $1\frac{2}{7}$ 2

3) $\frac{9}{10}$ $\frac{11}{10}$ $\frac{12}{10}$ $\frac{15}{10}$

$\frac{9}{10}$ $1\frac{3}{10}$

4) $\frac{8}{8}$ $\frac{10}{8}$ $\frac{14}{8}$

$1\frac{1}{8}$ $1\frac{4}{8}$

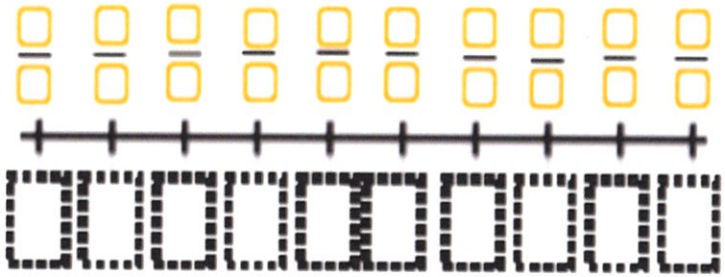
Reasoning and Problem-Solving:

1) Here is a number sequence.

$\frac{5}{12}, \frac{7}{12}, \frac{10}{12}, \frac{14}{12}, \frac{19}{12}, \_\_\_\_$

Which fraction would come next?

2) Create an improper fraction and mixed number number line for your partner to complete.



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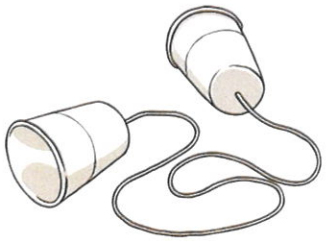
String Telephone



Aim

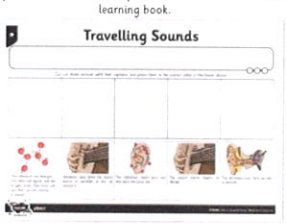
- I can explore how sounds change over distance.

Success Criteria

- I can identify how sounds change over distance.
- I can identify sounds at a distance.
- I can create a string telephone and explain how sound travels through it.

Travelling Sounds

Today you will be finding out about how sounds change as they travel. But how do they travel?
Look at the sheets below and remind yourself of the order.
Draw your own pictures and write the explanations in the correct order in your home learning book.



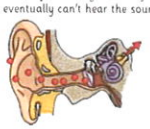
Travelling Sounds

Sounds get quieter as the distance between the sound source and your ear increases.

Sounds travel as vibrations. As the sound waves travel, the particles of whatever they are travelling through vibrate, or move quickly on the spot. The further the vibrations travel, the more they spread out. As they spread out through more and more particles, the vibrations become smaller and smaller. This causes the sound to get quieter and quieter.

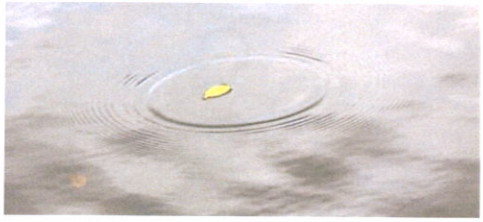
Think of dropping a leaf into a pond. The very first ripples directly around the leaf will be very large, but as the ripples spread out across the pond, they will get smaller and smaller until eventually they disappear.

This is why sounds get quieter and quieter as you move further away from the source, until you eventually can't hear the sound at all.



Travelling Sounds

You can see the ripples getting smaller as they spread out across the pond, until they eventually disappear. This is like the way the vibrations of sound get smaller as they spread out over distance, getting quieter and quieter.



Travelling Sounds

Sounds also get quieter over distance because some of the vibrations are absorbed by obstacles they meet.

If the ripples in the pond below hit an obstacle such as a stick or rock, they would not travel as far. This can help you understand why sounds get quieter as you move further away.

Sound over Distance

Try this investigation to explore how sounds change over distance.

Sit near to a ringing alarm clock and think about how loud it sounds. Then move about one metre away and again listen to how loud it is. Continue moving away about one metre at a time, stopping each metre to listen to how loud the alarm sounds.

If you can, choose a member of your family and place a blindfold on them! (ask their permission first!) Sound the alarm clock a certain distance away from them. Can they tell the distance the alarm is away from them just by listening to how loud it sounds? Let several people have a go if you can.

Who is closest at guessing the distance? Did anyone get it exactly right?

Sound over Distance

We know that vibrations spread out and get smaller as they travel, making sounds quieter as we move further away from the source of the sound. But often people need to be able to hear sounds from far away.

Can you think of any devices that transmit sound over a distance, or ways of making sounds louder so that they travel further?

Sound over Distance

We know that vibrations spread out and get smaller as they travel, making sounds quieter as we move further away from the source of the sound. But often people need to be able to hear sounds from far away.

Can you think of any devices that transmit sound over a distance, or ways of making sounds louder so that they travel further?


Phone


Microphone


Radio


Walkie Talkie


Putting hands around


Television

Telephone Transmission

Telephones are used to transmit the sound of people's voices over long distances.

When you speak into a telephone, the sound energy in your voice is turned into electrical energy, which is transported down a wire to the other person's telephone. The electrical energy is converted back into sound energy, and they can hear what you are saying!

Your challenge today is to create a string telephone that will transmit the sound of your voice over a distance.

Telephone Transmission

You and a partner should stand far apart from each other.

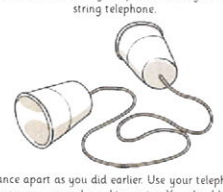
Use your normal speaking voice to try to talk to each other. Make sure that you can't hear each other!

Can you explain why you can't hear each other?

Telephone Transmission

The vibrations from the sound of your voice cannot continue moving as far as your partner's ear. The vibrations get smaller and stop before they reach your partner.

Now use the instructions on the String Telephone Activity Sheet to construct your string telephone.



Stand the same distance apart as you did earlier. Use your telephone to speak to each other. Remember to use your normal speaking voice. You should be able to hear each other now!

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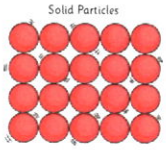
Telephone Transmission

How does your telephone work?

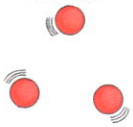
The string and the cups are solid, so the particles are much closer together than the particles in the air, which is a gas.

The sound energy can travel from particle to particle far easier in the solid string telephone, so the sound of your voice is louder over the same distance than it was in the air.

Solid Particles



Gas Particles



Telephone Transmission

Complete your explanation of how your string telephone allows sound to travel over distance on your String Telephone Activity Sheet.

If you do not have the equipment to make a string telephone. Don't panic. Instead you could get a piece of paper and create a cone ear.

Get a piece of paper or card. Curl it round into a cone shape. Carefully place the pointy part next to your ear (don't put it in your ear as you could hurt it!).

Write down what you notice about hoe the sound has changed. If your house ids quiet, go outside or in your garden and listen.

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String Telephone

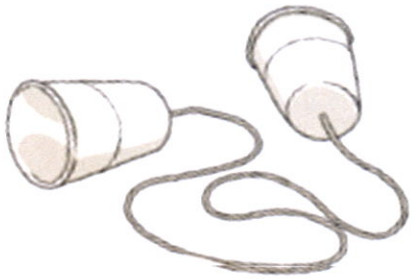
Make a string telephone to explore how sounds travel over a distance.

You will need:

Two paper cups

A compass or sewing needle to make holes in the cups;

Approximately 20m length of string (kite string works well).



What to do:

1. Use the compass or sewing needle to carefully poke a hole in the bottom of each cup. You may need to ask an adult to help you.
2. Thread the string through the holes and tie a knot at each end to stop it pulling through the cups.
3. You and your partner should each hold a cup and move apart so that the string is tight.
4. Take turns talking into your cup while your partner listens in their cup.

How does it work?
Use the key words to fill in the gaps to explain how your string telephone works.

When one person talks into their cup, the cup _____. The sound _____ of these vibrations passes along the string. The string is a _____, so the particles are very close together, and the vibrations can pass _____ and easily along the string. The vibrations pass from the _____ into the second cup, which also vibrates. These vibrations pass through the air _____ into the second person's _____, who can then hear the sound of the first person's voice. The sound of the person's voice is _____ through the string than it is through the air over the same _____.

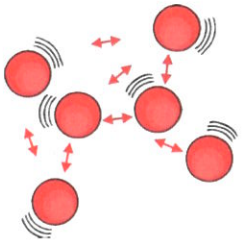
vibrates	energy	string	solid	particles	distance
ear	louder	quickly			

Science - Week 4 Day 4

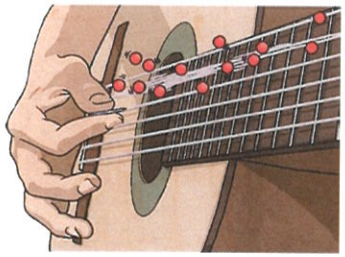
Travelling Sounds

I can explain how sounds travel

Cut out these pictures with their captions and place them in the correct order in the boxes above.

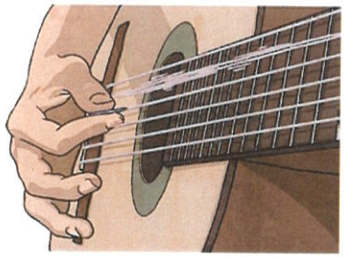


The vibrations pass from particle to particle.

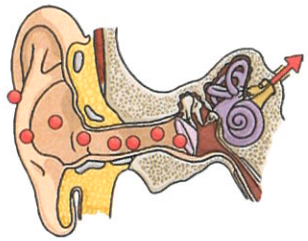


Vibrations pass from the sound source to particles in the air around it.

The vibrations reach your ear, and pass into your ear.



The sound source begins to vibrate.



The vibrations are changed into electrical signals and sent to your brain. Your brain tells you that you are hearing a sound!

Week 4 Day 4

8 Times Table Activities

Count in 8s and colour in the grid:

1	2	3	4	5	6	7	8	9	10	11	12
13	14	15	16	17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72
73	74	75	76	77	78	79	80	81	82	83	84
85	86	87	88	89	90	91	92	93	94	95	96
97	98	99	100	101	102	103	104	105	106	107	108
109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132
133	134	135	136	137	138	139	140	141	142	143	144

Work out these answers:

a) 2 x 8 = _____

b) 10 x 8 = _____

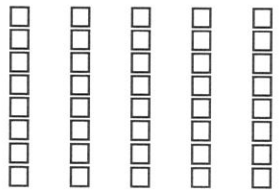
c) 5 x 8 = _____

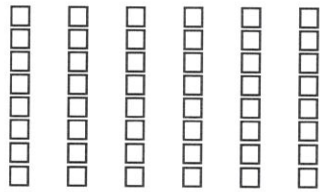
d) 8 x 8 = _____

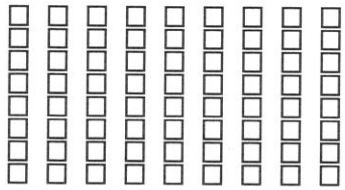
e) 7 x 8 = _____

f) 12 x 8 = _____

How many blocks are there?

a)  _____ x _____ = _____

b)  _____ x _____ = _____

c)  _____ x _____ = _____

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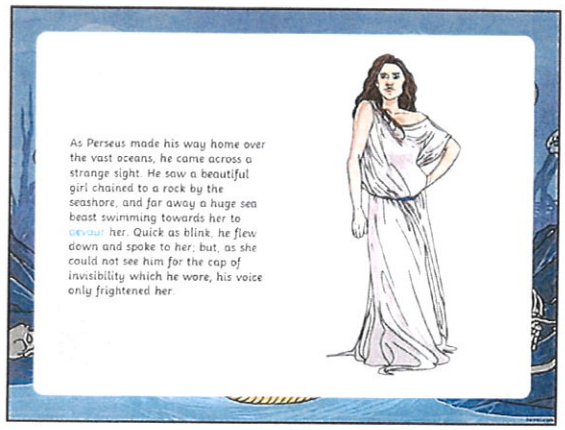
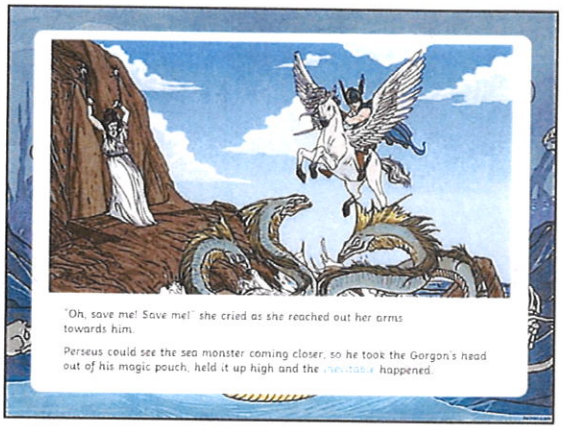
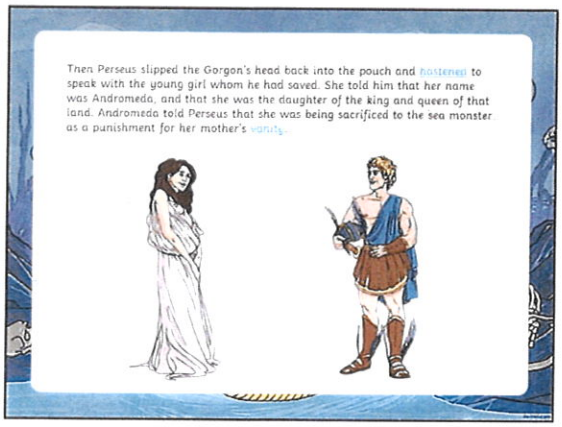
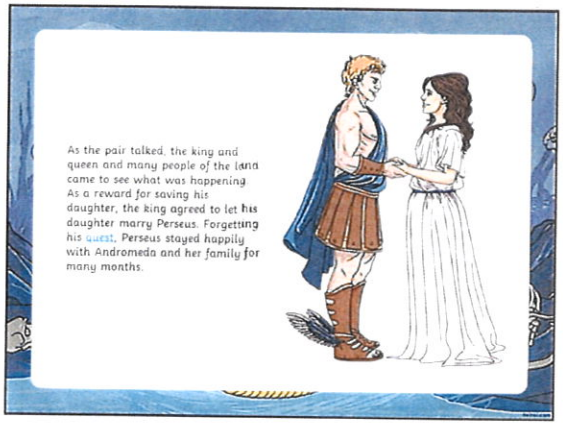




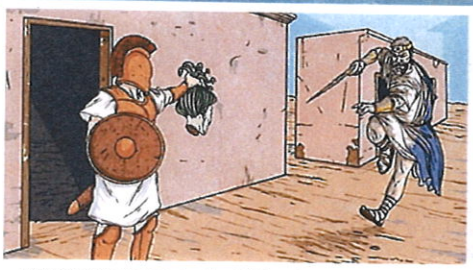




But Perseus had not forgotten his mother; and so, one fine summer day, he and Andromeda sailed in a beautiful ship to his own home; for the winged slippers could not carry both him and his bride through the air. The ship came to land at the very spot where the wooden chest had been cast so many years before. Perseus and his bride walked through the fields towards the town.

Now, the wicked king of that land had never ceased trying to persuade Danaë to become his wife; but she would not listen to him, and the more he pleaded and threatened, the more she disliked him. At last when he found that she could not be made to marry him, he declared that he would kill her; and on this very morning he had started out, sword in hand, to take her life.

So, as Perseus and Andromeda came into the town, they were greeted with the scene of his mother fleeing to the safety of the altar of Zeus, and the king following after, intent on killing her. When Perseus saw the king rushing like a madman after his mother, he again took the head of Medusa from his magic pouch.

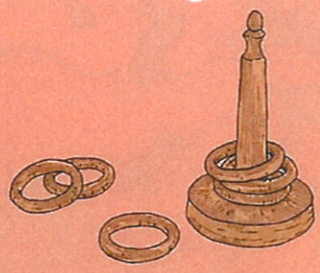


"I promised to bring you a present, and here it is!" he cried.

The king saw it, and was turned into stone, just as he stood, with his sword uplifted and a terrible look of anger and passion in his face.

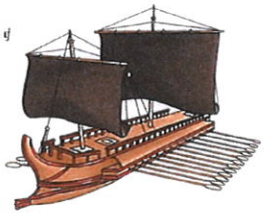
His mother safe, Perseus decided that they should all return home to Argos, so the three of them set sail the following day.

The Deadly Quoit



When Danaë's old father, the king of Argos, heard that a strange ship was coming over the sea with his daughter and her son on board, he was in great distress; he remembered what the Pythia had foretold about his death. So, without waiting to see the vessel, he left his palace in great haste and fled.

"My daughter's son cannot kill me if I keep out of his way," he said.



Reading - Week 4 Day 4

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