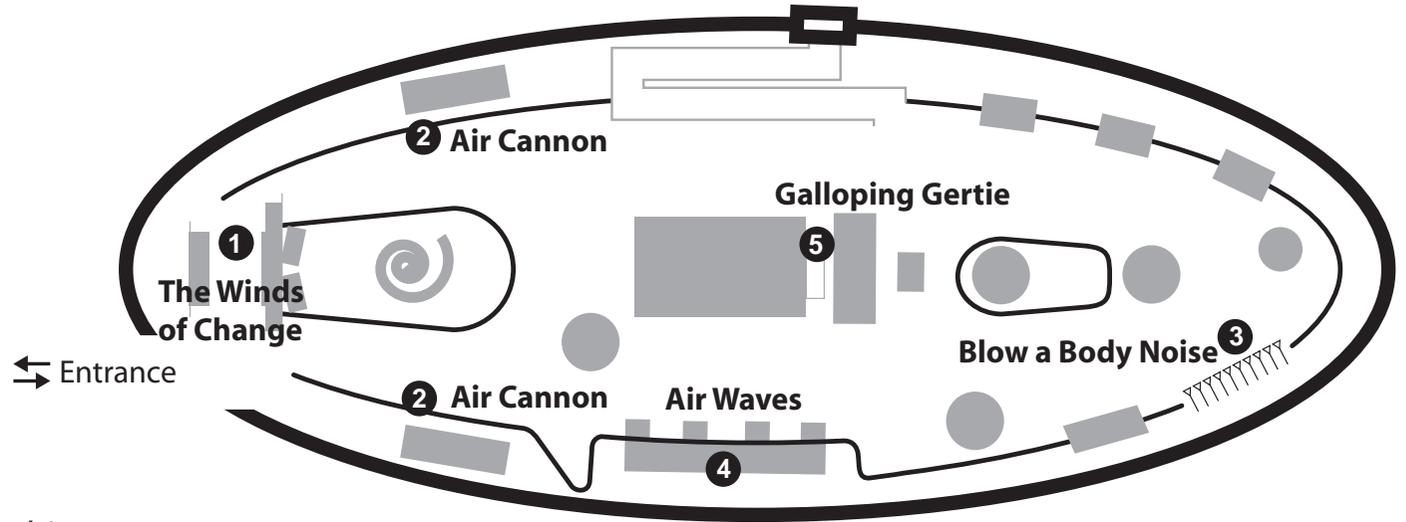


# Air Pavilion Quiz

Name: \_\_\_\_\_ Class: \_\_\_\_\_



1 The **Winds of Change** is a wind machine.  
Does the wind **push** or **pull** ?

2 The **Air Cannon** uses a **p \_ \_ \_** and **p \_ \_ \_** force to make the shapes on the metal wall.  
What do the patterns look like?

**Ripples on a pond**

**Water down a plughole**

**Steam from a kettle**

3 **Blow a Body Noise** - Circle the places in your body where you think you would find air.

**Lungs    Bones    Mouth    Brain    Heart**

**Blood    Guts**

4 **Air Waves** uses different materials and shapes to make the noises you hear. Where on Air Waves can you find these materials? Draw lines between the pairs.

**Glass**

**Pipes**

**Air**

**Bottles**

**Water**

**Everywhere**

**Steel**

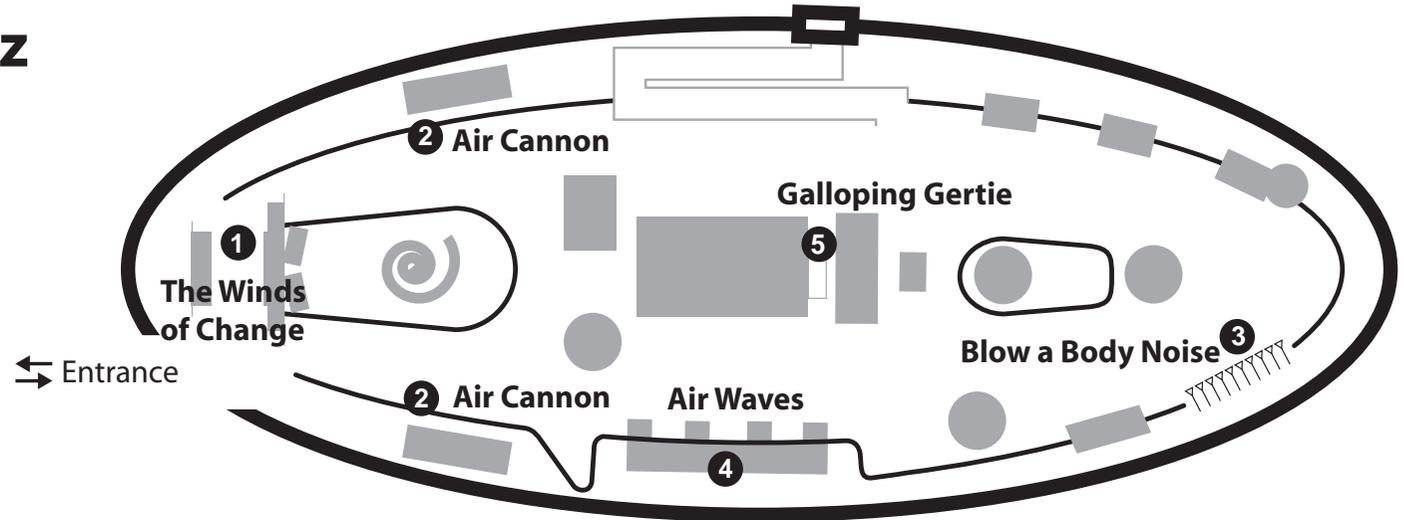
**Inside the bottles**

5 **Galloping Gertie** shows the story of the Tacoma Narrows Bridge. Why do you think the bridge fell down? Cross the box for the description you think is true.

**The wind pushed and pulled the bridge. This made the bridge vibrate. This shaking was so strong that the bridge broke apart.**

**The people and cars on the bridge made it shake and then it fell down.**

# Air Pavilion Quiz Answers



1 The **Winds of Change** is a wind machine.  
Does the wind **push** or **pull** ?

2 The **Air Cannon** uses a **push** and **pull** force to make the shapes on the metal wall?  
What do the patterns look like?

**Ripples on a pond**      **Water down a plughole**

**Steam from a kettle**

4 **Blow a Body Noise** - Circle the places in your body where you think you would find air.

**Lungs**   **Bones**   **Mouth**   **Brain**   **Heart**  
**Blood**   **Guts**

Note: Some of the gases found in the air are present as gases **dissolved** in the blood e.g. oxygen, carbon dioxide.

5 **Air Waves** uses different materials and shapes to make the noises you hear. Where on Air Waves can you find these materials? Draw lines between the pairs

|              |                 |                           |
|--------------|-----------------|---------------------------|
| <b>Glass</b> | <del>————</del> | <b>Pipes</b>              |
| <b>Air</b>   | <del>————</del> | <b>Bottles</b>            |
| <b>Water</b> | <del>————</del> | <b>Everywhere</b>         |
| <b>Steel</b> | <del>————</del> | <b>Inside the bottles</b> |

6 **Galloping Gertie** shows the story of the Tacoma Narrows Bridge. Why do you think the bridge fell down? Tick which description you think is true.

**The wind pushed and pulled the bridge. This made the bridge vibrate. This shaking was so strong that the bridge broke apart.**

science calls this **resonance**

**The people and cars on the bridge made it shake and then it fell down.**

# Earth Pavilion Quiz

Name: \_\_\_\_\_ Class: \_\_\_\_\_

**1 Tunnellers and Borrowers.**

Name any two animals which live underground?

\_\_\_\_\_

**2 Laying Down Rock.**

Which three materials are taken from the Earth to make steel?

I \_\_\_\_\_ O \_\_\_\_\_,  
C \_\_\_\_\_, L \_\_\_\_\_.

**3 Moving Rocks.**

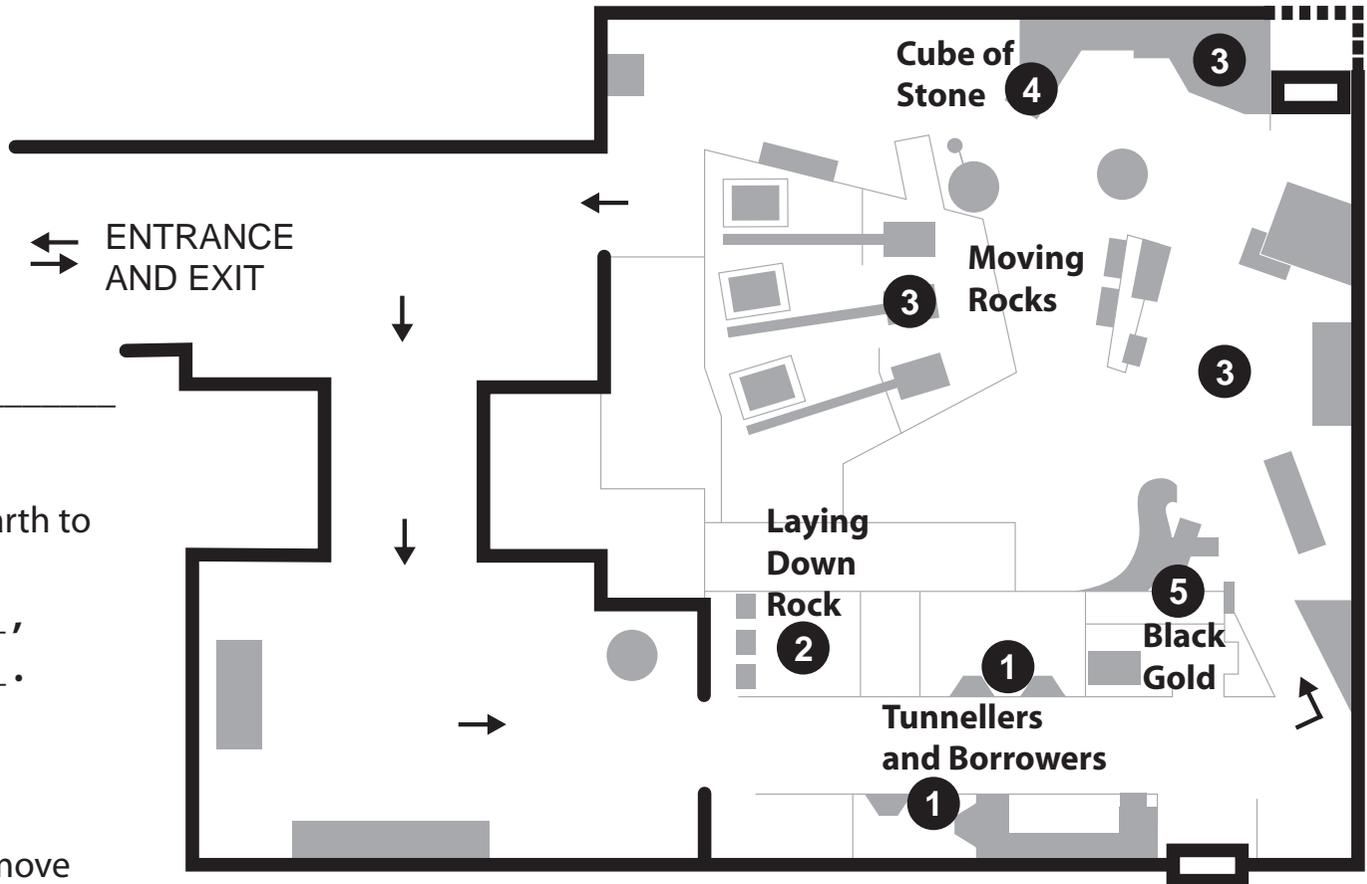
How many different machines are used to move the rocks around in the Earth Pavilion?

\_\_\_\_\_

**4 Cube of Stone.**

Name two forces in action when you lift the cube of stone.

\_\_\_\_\_



**5 Black Gold.**

Look at the coal tub, crawl into the small tunnel and find out about coal mining. Add **three** more words to describe what it was like to work as a child down the mines 200 years ago...

dark

\_\_\_\_\_

\_\_\_\_\_

# Earth Pavilion Quiz Answers

## 1 Tunnellers and Borrowers.

Name any two animals which live underground?

Any 2, but **Ants** and **Rats** are shown in the exhibit.

## 2 Laying Down Rock.

Which three materials are taken from the Earth to make steel?

**Iron Ore**      **Coal**      **Limestone**

## 3 Moving Rocks.

How many different machines are used to move the rocks around in the Earth Pavilion?

**4**, these are **diggers**, **bucket lifts**, **conveyor belts** and **wheelbarrows** (**5** if you include the **excavator wheel**).

## 4 Cube of Stone.

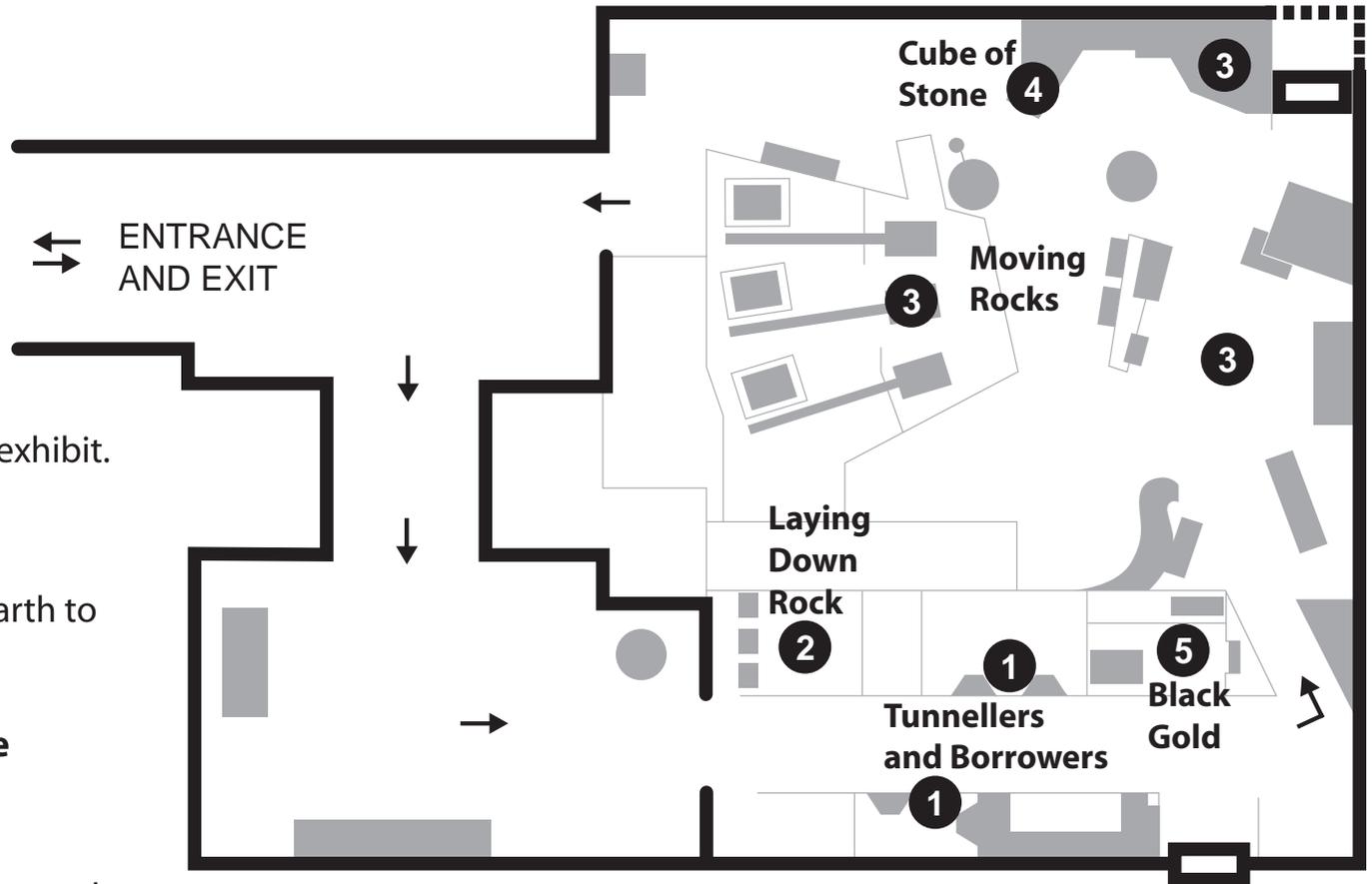
Name two forces in action when you lift the cube of stone.

Any 2 from **Pull**, **Gravity**, **Friction**.

## 5 Black Gold.

Push the coal tub, shout down the hole and find out about coal mining. Add **three** more words to describe what it was like to work as a child down the mines 200 years ago...

**dark**      **scary, tiring,**  
**dangerous, filthy, dirty, dusty, choking,**  
**cramped ... etc.**



# Fire Pavilion Quiz

Name: \_\_\_\_\_ Class: \_\_\_\_\_

1 The **Steel Saver** crane can lift the steel cans because they are ...

**hard      metal      magnetic**

2 **Electric Arc.**

What happens to the steel when the spark comes down? It ...

**freezes      melts      catches fire**

3 **Fire Safety.**

If a fire starts in your home, in which room is it most likely to happen? \_\_\_\_\_

4 **Feel the Heat.**

How did the plate in the middle feel?

**warm      cold      both**

Try and explain your answer.

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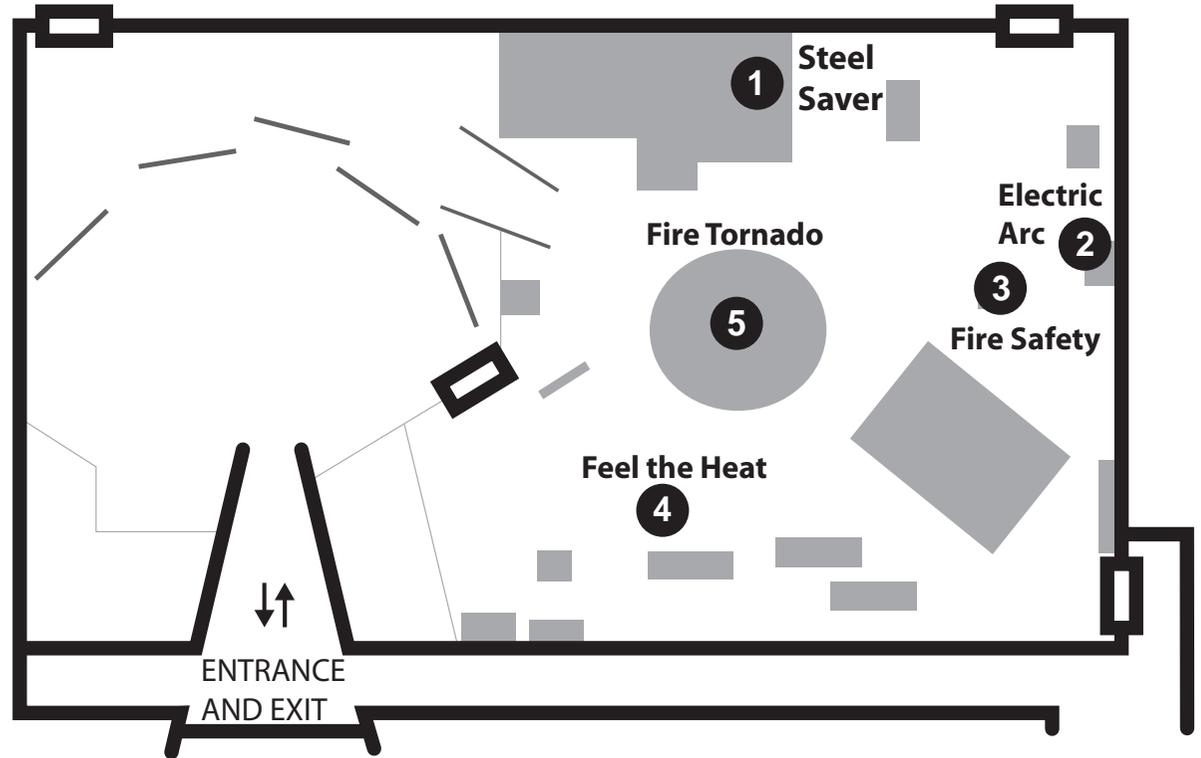
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5 How does the **Fire Tornado** change as it burns? ... draw your answer below.

just lit

burning brightly

near the end

# Fire Pavilion Quiz Answers

1 The **Steel Saver** crane can lift the steel cans because they are ...

hard      metal      **magnetic**

2 **Electric Arc.**  
What happens to the steel when the spark comes down? It ...

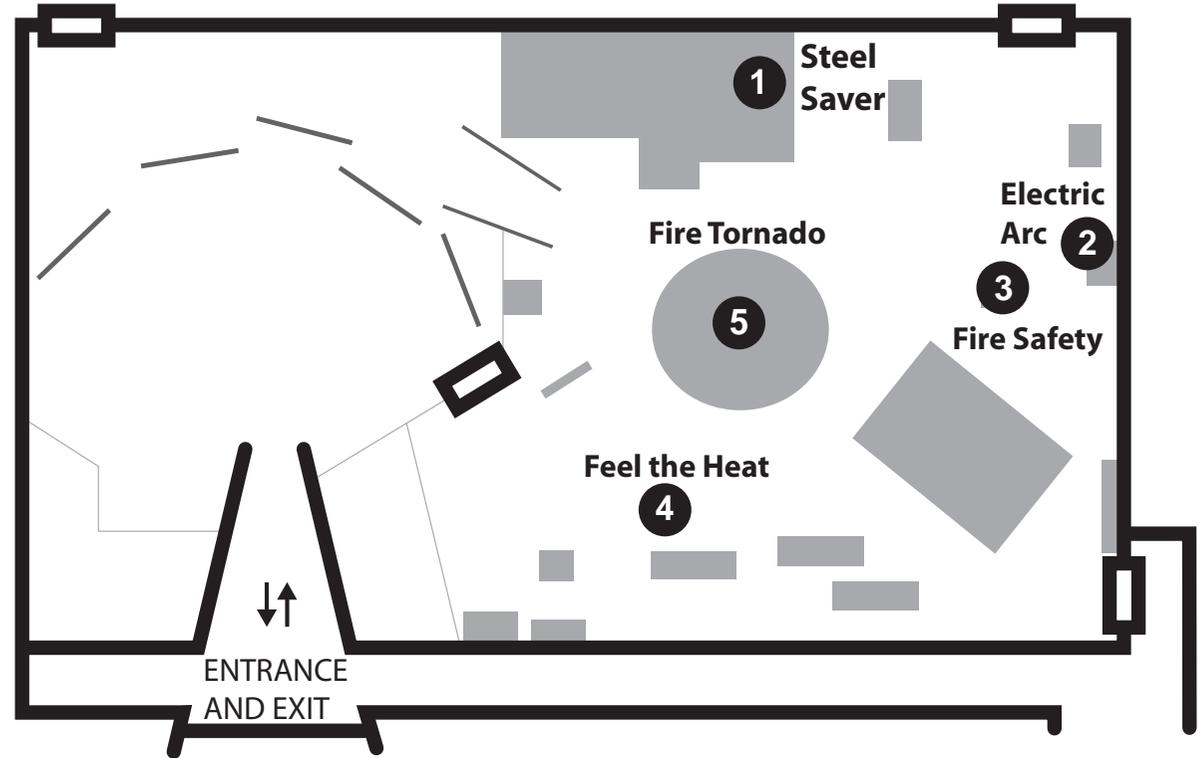
freezes      **melts**      catches fire

3 **Fire Safety.**  
If a fire starts in your home, in which room is it most likely to happen?      **Kitchen**

4 **Feel the Heat.**  
How did the plate in the middle feel? ... put a circle around your answer.

warm      cold      **both**

Your right hand is cold and your left hand is warm. The middle plate has a temperature in between. **Heat goes into your right hand and out of your left hand.** Heat always flows from warmer to cooler places. Your body senses this heat flow.



5 How does the **Fire Tornado** change as it burns? ... draw your answer below.

just lit

small flames, no tornado.

burning brightly

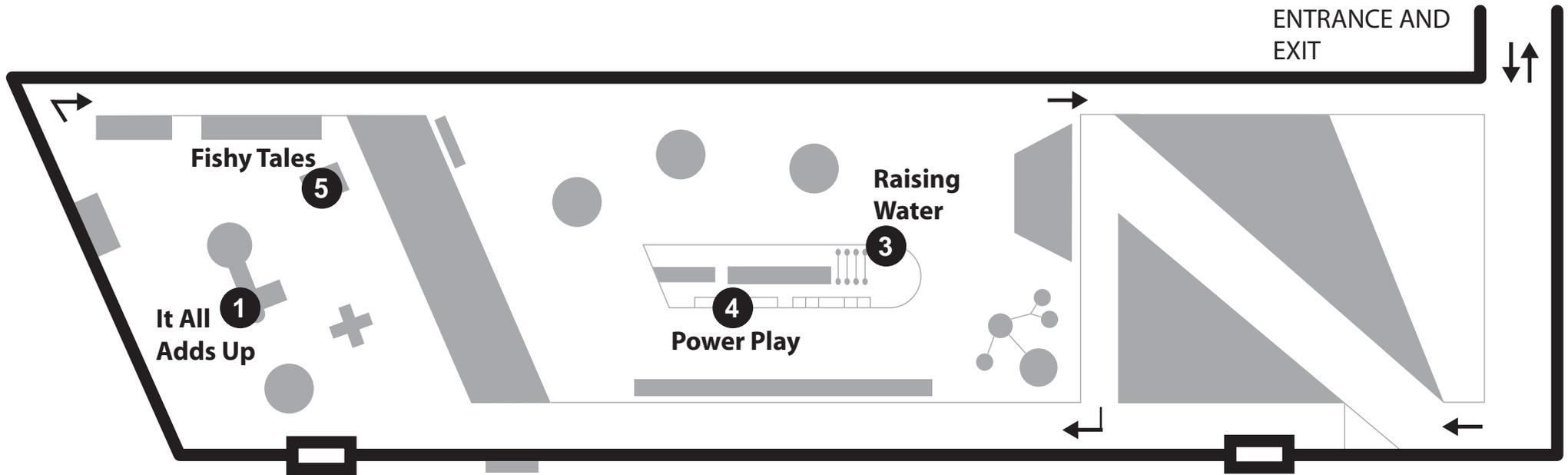
tall spiral, wider at the base, the hot air is pushed up and the fan makes the air rotate.

near the end

narrow spiral, like a whip, smaller as the fuel runs out.

# Water Pavilion Quiz

Name: \_\_\_\_\_ Class: \_\_\_\_\_



1 **It All Adds Up.** How many litres of water did you use?

\_\_\_\_\_

2 Where in the Water Pavilion can you find **ice, water** and **steam**? Mark your answers on the map with a cross.

3 **Raising Water.** Which colour machine lifted the most water in the least time?

\_\_\_\_\_

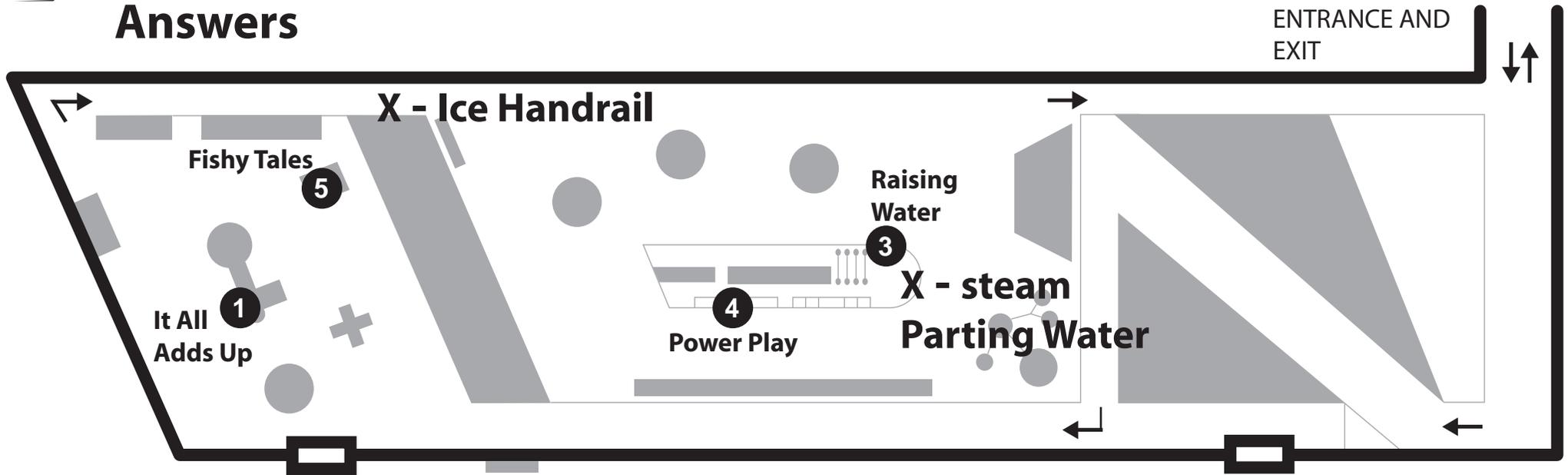
4 **Power Play** is made of 3 different water wheels. Which wheel turns with the largest force?

**undershot      overshot      breastshot**

5 **Fishy Tales.** Write down 3 things you can see that could harm the salmon?

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Water Pavilion Quiz Answers



❶ **It All Adds Up.** How many litres of water did you use?  
Answer varies, but usually **more than 100** litres.

❷ Where in the Water Pavilion can you find **ice, water** and **steam**? See plan for ice and steam, and there is water all over the place!

❸ **Raising Water.** Which colour machine lifted the most water in the least time?  
**Blue**

❹ **Power Play** is made of 3 different water wheels. Which wheel turns with the largest force?

undershot   **overshot**   breastshot

❺ **Fishy Tales.** Write down 3 things you can see that would harm the salmon? Any 3 from...

**Millstones, Cartwheels, Sewage, Nets, Bicycle Wheels, Cans, Welly Boots, Car Tyres, and Shopping Trolleys**