**Science- Movement and forces**

Movement and forces can be linked to literacy’s topic of toys and advertisements due to most toys requiring an action to work. Pupils will enjoy this topic as it encourages a lot of testing and play time. We will be concentrating on the most used forces like pushing and pulling. We will also be looking at performing simple science tests on surfaces and in water, for example toy cars on different surfaces. If you do not have a certain item, for example sandpaper in experiment 3 put a red cross through it and use something else. **Please look at the communication sheets provided to help aid children’s understanding.**

**Pupils can help write out the tables via hand over hand, overwrite or copy underneath.**

**Experiment 1- Instructions**

First thing is to look around the house for things that we can pull and push. Search around each room in the house and write down a table with the items you have tested, ticking in the appropriate box (somethings can be both). You can make separate table for each room and the title on top.

**Bedroom**

|  |  |  |  |
| --- | --- | --- | --- |
| Objects | Push | Pull | Both |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

After experiment discuss with your children what you found: What could you pull? Push? Or both?

How many objects could you pull? Push? Or both?

**Experiment 2- Instructions**

Next test will be finding out which everyday objects sink or float in a bowl of water. This experiment will help pupils’ basic understanding of materials/items which float or sink. It is a fun experiment, as water play is usually an enjoyable activity to perform. Pupils need to place a tick in the correct box to indicate their findings. You could even discuss what it is made out from.

|  |  |  |
| --- | --- | --- |
| Item | Sink | Float |
| Pencil (wood) |  |  |
| Coin (metal) |  |  |
| Cotton wool |  |  |
| Rubber band |  |  |
| Stick (wood) |  |  |
| Hairbrush |  |  |

What objects sink? Float?

How many objects sink? Float?

**Extension task**

What are the items made from?

Did it sink fast or slow?

Can you find anything else that can sink? Or float?

**Experiment 3**

For this experiment we will be looking at forces and how surfaces effect how far an object can travel. This experiment will help pupils construct an experiment, perform the experiment, record their results and is fun.

Place 3 books on top of each (catalogues can be used if you do not have books of a good width).

Place a ramp on the books, you can use a piece of cardboard, tile or even a chopping board.

Place your chosen material at the bottom of the rap and the car at the top of the ramp.

READY, STEADY, GO and measure the distance from the bottom of the ramp and where it stops (from back wheel).

|  |  |
| --- | --- |
| Item | Distance (cm) |
| Carpet |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

Pupils can attempt to write the number in the distance box. Hand over hand, overwrite or copy underneath.

Ask these questions: Where is \*equipment\*?

How many books to build a ramp?

Where is the ruler?

What number is on the ruler?

Was it fast? Was it slow?

**Further questions**

**What item was the furthest?**

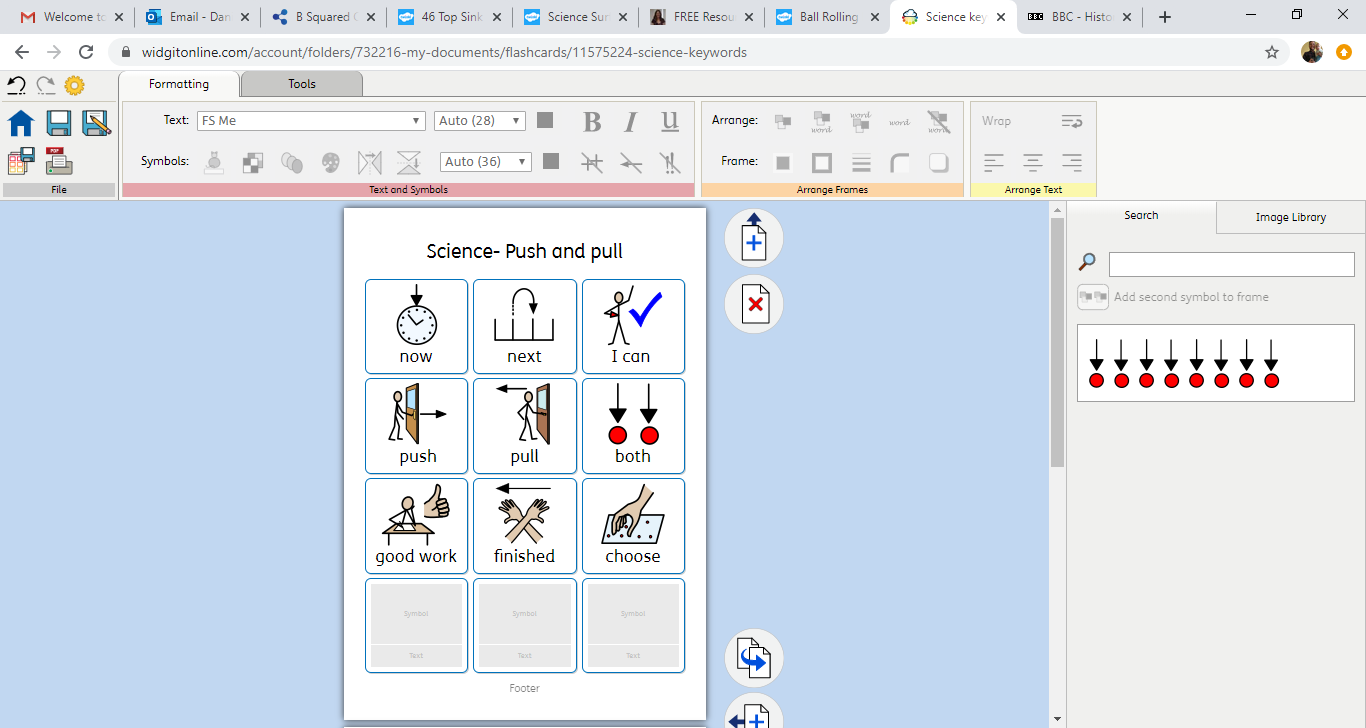
**What item was the shortest?**

**Extension task**

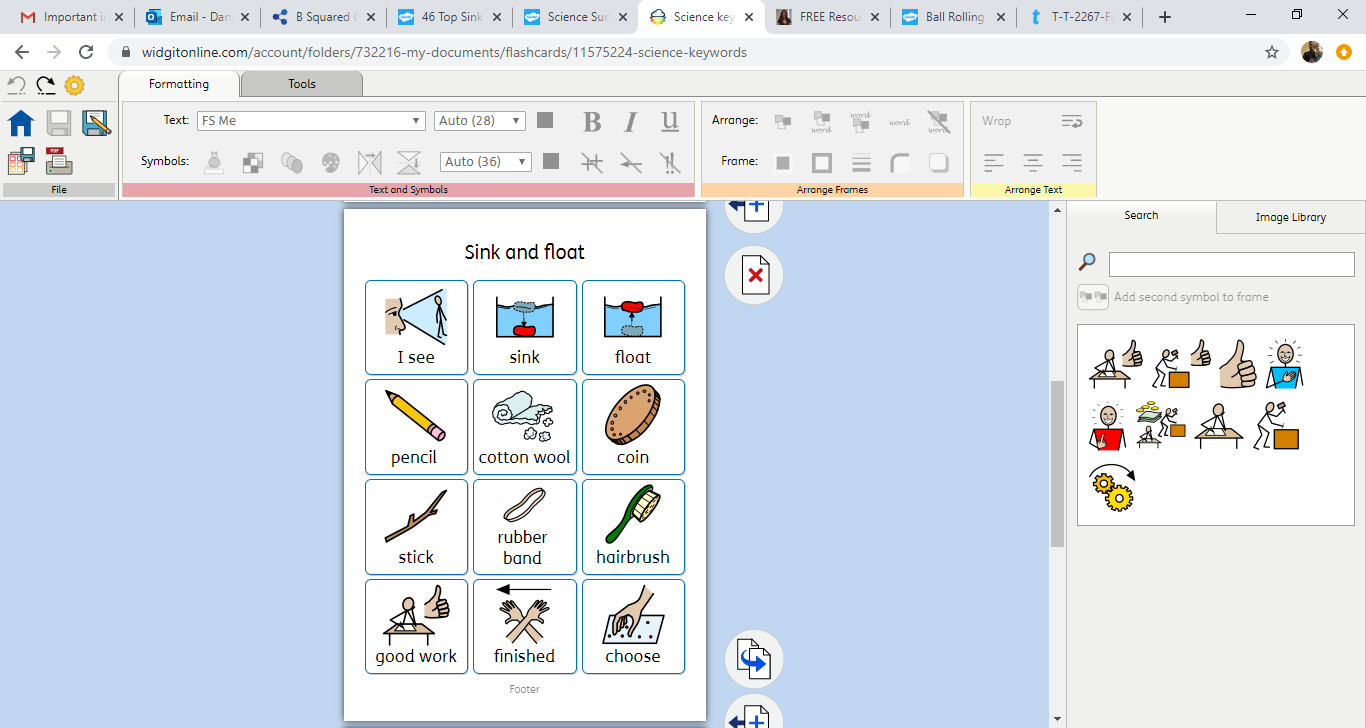
Change the object being used for the experiment for example a ball, a tube of smarties. Could even use different balls and see what ball travel the furthest on the same surface (tennis, golf, football etc.). Increase or decrease the distance the car travels by adding or reducing the number of books.

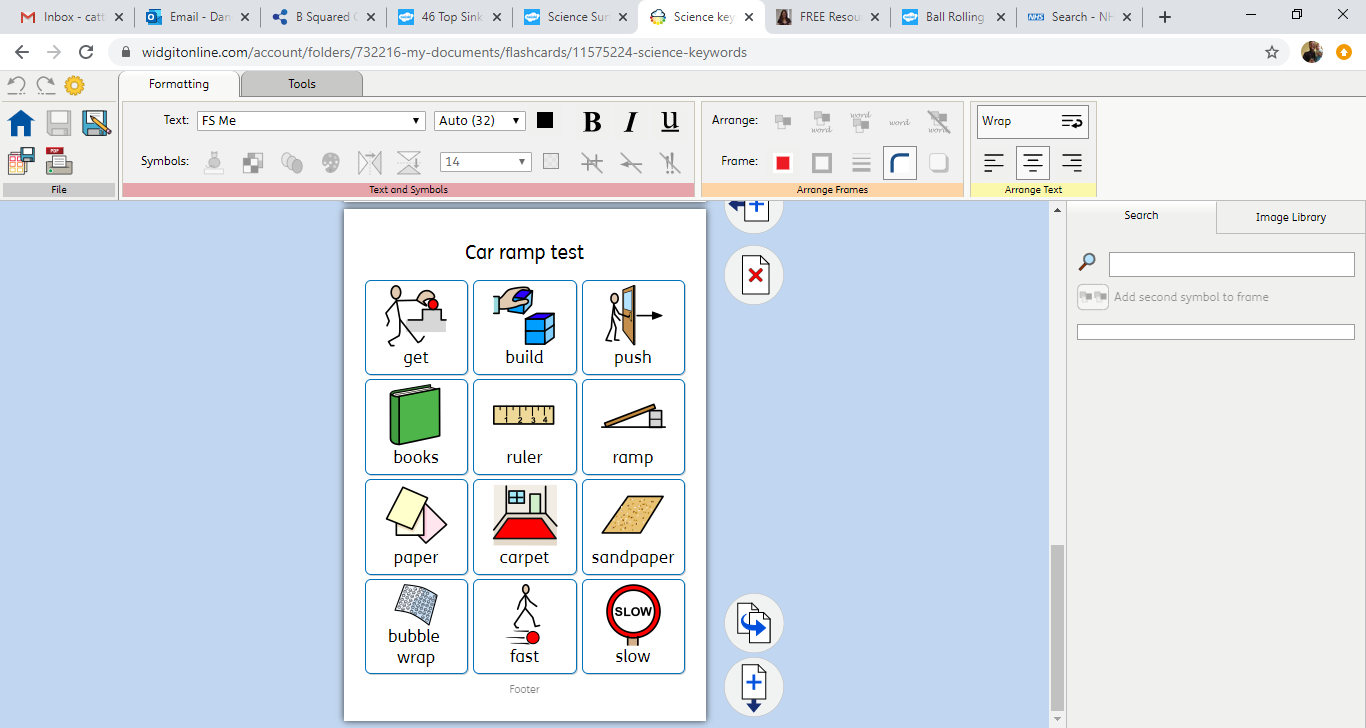
**Communication sheets for Science experiments.**

**Experiment 1**



**Experiment 2**



**Experiment 3**

**Extra tables**

|  |  |  |  |
| --- | --- | --- | --- |
| Objects | Push | Pull | Both |
|  |  |  |  |
|  |  |  |  |
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|  |  |  |  |
|  |  |  |  |
| Objects | Push | Pull | Both |
|  |  |  |  |
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|  |  |  |  |
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|  |  |  |  |
| --- | --- | --- | --- |
| Objects | Push | Pull | Both |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**Experiment 2**

|  |  |  |
| --- | --- | --- |
| Item | Sink | Float |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

|  |  |  |
| --- | --- | --- |
| Item | Sink | Float |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

|  |  |  |
| --- | --- | --- |
| Item | Sink | Float |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Experiment 3**

|  |  |
| --- | --- |
| Item | Distance (cm) |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

|  |  |
| --- | --- |
| Item | Distance (cm) |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

|  |  |
| --- | --- |
| Item | Distance (cm) |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |