

## Challenge 1 - Air Powered Car

What did you want to find out?

What did you have to do?

Did it work the first time you tried it?

Did you have to change anything to make it work better?

What surface did your car travel furthest on?

Why do you think it was that surface?

What did you learn from doing this experiment?

What skills have you developed?

## Challenge 2 - Artic Engineering

What did you want to find out?

What did you have to do?

Did it work the first time you tried it?

Did you have to change anything to make it work better?

What did you learn from doing this experiment?

What skills have you developed?

### Challenge 3 - Bubble Geometry

What did you want to find out?

What did you have to do?

Did it work the first time you tried it?

Did you have to change anything to make it work better?

What did you learn from doing this experiment?

What skills have you developed?

### Challenge 4 - Catapult Challenge

What did you want to find out?

What did you have to do?

Did it work the first time you tried it?

What did you change to make it go further?

What did you learn from doing this experiment?

What skills have you developed?

### Challenge 5 - Chasing Shadows

What did you want to find out?

What did you have to do?

Did it work the first time you tried it?

Did you have to change anything?

What changed as you checked throughout the day?

What did you learn from doing this experiment?

What skills have you developed?

### Challenge 6 - Dancing Salt

What did you want to find out?

What did you have to do?

Did it work the first time you tried it?

Did you have to change anything?

What happened?

What kind of music made the salt dance best?

What patterns did the salt make?

What did you learn from doing this experiment?

## Challenge 7 - Decoding Nature's Patterns

What did you want to find out?

What did you have to do?

What have you learned or found out?

What skills have you developed?

## Challenge 8 - Desert Island Rafts

What did you want to find out?

What did you have to do?

Did your raft float?

Did you make any changes to it?

What have you learned or found out?

What skills have you developed?

### Challenge 9 - Drops on a Penny

What did you want to find out?

What did you have to do?

Was your prediction correct?

What have you learned or found out?

### Challenge 10 - Egg Parachute

What did you want to find out?

What did you have to do?

Which was the most successful design?

Why do you think that one worked best?

What have you learned or found out?

What skills have you developed?

### Challenge 11 - Fireworks in a Jar

What did you want to find out?

What did you have to do?

How did using different liquids change what happened?

What have you learned or found out?

What skills have you developed?

### Challenge 12 - Green Coins

What did you want to find out?

What did you have to do?

What did you notice after 10 minutes?

What had changed after you waited even longer?

How could you have changed the experiment to make it even better?

What have you learned or found out?

### Challenge 13 - Leaf Shape Sorting

What did you want to find out?

What did you have to do?

What categories did you sort your leaves into?

What did you find the most of?

What have you learned or found out?

What skills have you developed?

### Challenge 14 - Lolly Stick Bridges

What did you want to find out?

What did you have to do?

Did it work the first way you tried it?

What did you have to change?

How many cars did your bridge hold?

How do you think you could improve it to hold more cars?

## Challenge 15 - Magic Milk

What did you want to find out?

What did you have to do?

What happened?

Did using a different type of milk make a difference?

What have you learned or found out?

## Challenge 16 - Marble Run Mayhem

What did you want to find out?

What did you have to do?

Did it work the first time?

What changes did you have to make?

What did you learn or find out?

What skills did you develop?

## Challenge 17 - Marshmallow Challenge

What were you trying to do?

How did you build your structure?

Did you have any problems?

How did you solve them?

What did you learn or find out?

What skills did you develop?

## Challenge 18 - Minibeast Mapping

What different habitats did you explore?

What did you find?

Which habitat was the most popular? Why do you think this is?

What did you learn or find out?

### Challenge 19 - Musical Milk Bottles

What were you trying to do?

How did you do it?

Did it work first time?

What changes did you have to make?

What changed about the sound when you changed the volume of water?

What did you learn or find out?

### Challenge 20 - Newspaper Towers

What were you trying to do?

How did you build your structure?

Did you have any problems?

How did you solve them?

What did you learn or find out?

What skills did you develop?

## Challenge 21 - Oil Spill Clean Up

What did you want to find out?

What did you have to do?

Did you have any problems?

How did you solve them?

What did you learn or find out?

What skills did you develop?

## Challenge 22 - Paper Plane Bullseye

What were you trying to do?

How did you make your plane?

How did you change it to make it more accurate?

Why do you think some worked better than others?

What did you learn or find out?

What skills did you develop?

### Challenge 23 - Paper Cup Phones

What were you trying to find out?

What did you have to do?

Did it work the first time?

What did you have to change?

How did changing the length of the string affect the sound?

What did you learn or find out?

### Challenge 24 - Photo Scavenger Hunt

What sorts of things did you have to find?

What ones were hardest to find?

Did you find them all?

What did you learn or find out?

What skills did you develop?

## Challenge 25 - Playing with Puddles

What were you trying to find out?

How did you decide to create your puddle?

What did you find out?

How might you do it differently next time?

What skills did you develop?

## Challenge 26 - Plugging Pipelines

What were you trying to do?

Did it work first time?

What changes did you have to make?

What did you learn or find out?

What skills did you develop?

### Challenge 27 - Racing Hearts

What were you trying to find out?

How did the different exercise affect your heart rate?

What did you learn or find out?

What skills did you develop?

### Challenge 28 - Rainbow Walking Water

What were you trying to find out?

What did you have to do?

What changes did you see throughout the day?

What did you learn or find out?

## Challenge 29 - Robot Obstacle Course

What did you have to do?

Did your robot manage to follow all the instructions?

What could you have changed to improve it?

What did you learn or find out?

What skills did you develop?

## Challenge 30 - Rock Rummage

What did you have to do?

What different ways did you choose to sort your rocks?

What did you learn or find out?

What skills did you develop?

### Challenge 31 - Rocket Racers

What were you trying to do?

Did you have any problems?

How did you solve them?

Who had the rocket that got to the other end  
quickest? Why do you think that was?

What did you learn or find out?

### Challenge 32 - Shape Strength

What were you trying to find out?

Which shape held the greatest weight? Why do you  
think that was?

What did you learn or find out?

What skills did you develop?

### Challenge 33 - Sweetie Symmetry

What were you trying to find out?

What happened to the colours when you put the water in?

What did you learn or find out?

What skills did you develop?

### Challenge 34 - Special Snowflakes

What were you trying to find out?

What changes did you make to your snowflake?

Did it make a difference?

Why do you think some snowflakes fell faster than others?

What did you learn or find out?

### Challenge 35 - Spinning Helicopters

What were you trying to find out?

What happened when you added more paper clips?

What did you learn or find out?

What skills did you develop?

### Challenge 36 - Spoon Sound Waves

What were you trying to find out?

Did you have to make any changes?

What happened when your friend hit the spoon?

What happened when you changed the length of the string?

What did you learn or find out?

### Challenge 37 - Static Salt 'n' Pepper

What were you trying to find out?

What happened when you held the spoon over the plate?

What difference was there when you held the spoon further away?

What did you learn or find out?

### Challenge 38 - Tinfoil Cargo Boats

What were you trying to find out?

Did you have to make any changes to make your boat float?

How do you think you could improve your design to make it hold more?

What skills did you develop?

### Challenge 39 - Water Colour Carnival

What were you trying to find out?

What did you see happen?

What did you learn or find out?

What skills did you develop?

### Challenge 40 - Water Filter Challenge

What were you trying to do?

What happened to the water?

What did you learn or find out?

What skills did you develop?

