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| **Statement** | **Testable/ Not Testable** | **How to Make it Testable** |
| Do fingers wrinkle faster in hot or cold water? | Put finger in cold water – track time until wrinkles  Put finger in hot water – track time until wrinkles  Testable | Put finger in cold water – record time until wrinkling.  Put finger in hot water – record time. Compare both times. |
| How do cats meow? | Pull the left ear – If cat meows  Pull the right ear – cat meows  Fill milk in bowl – cat meows?  Show a rat to the cat – cat meows?  Testable | Pull left/right ear – see if cat meows (note: may be unethical).  Fill milk in bowl – see if cat meows.  Show rat/toy – see if cat meows. |
| What makes plants grow? | Put plant in sun – see if it grows  Put plant in shade – see if it grows  Water one plant, don’t water another – see difference  Testable | Put one plant in sunlight,  another in darkness – measure growth. Water one plant,  leave another dry – compare height/leaf count. |
| Does soil type affect plant growth? | Plant in sand – measure growth  Plant in potting soil – measure growth  Plant in clay – measure growth  Testable | Plant same seeds in different soil types (sand, clay, compost). Measure growth weekly. |
| How do kites work? | Fly kite in no wind – doesn’t fly  Fly kite in low wind – flies low  Fly kite in strong wind – flies high  Not testable as phrased (change to “How high does a kite fly in different wind speeds?”) | Fly kite in no wind, light wind, strong wind. Record height and stability in each condition. |
| Does Pepsi have more carbonation than Coke? | Pour Pepsi – measure fizz (volume or bubbles)  Pour Coke – measure fizz  Compare CO₂ levels  Testable | Pour equal amounts of Pepsi and Coke. Measure fizz height or use gas sensor to measure CO₂ released. |
| What makes something sink or float? | Drop heavy object – sinks  Drop light object – floats  Drop high-density object – sinks  → Not testable as phrased (can be broken into testable experiments) | Drop various objects (wood, metal, plastic) in water. Record if they sink or float. Compare based on density. |
| Does the saltiness of water affect how fast it freezes? | Freeze salty water – track time  Freeze fresh water – track time  Compare times  Testable | Freeze equal volumes of fresh, slightly salty, and very salty water. Record freezing time for each. |
| Does the temperature of the air impact how high a basketball bounces? | Warm air – drop ball – measure bounce  Cold air – drop ball – measure bounce  Testable | Drop a basketball from same height in warm and cold rooms. Measure bounce height. |
| Can I design a device that attaches my skateboard to my bike? | Build attachment  Test if it works safely  Testable | Build attachment. Test by riding it. Observe safety, stability, and usability. |
| Does the amount of tv people watch affect their school attendance? | Survey students: TV hours vs attendance  Look for pattern  Testable | Survey students on daily TV hours and attendance. Analyze patterns or correlations. |
| Can differently scents in the room affect how long people sleep? | Use lavender scent – measure sleep time  Use no scent – measure sleep time  Use citrus scent – measure sleep time  Testable | Use a scent (lavender, peppermint, no scent) before sleep. Record how long people sleep in each condition. |
| When will fossil fuels run out? | Estimate based on usage data  Use predictions, not experiments  Not testable | Not testable via experiment. Research usage rates and global reserves to make projections. |
| How do batteries work? | Research internal battery parts  Not testable | Not testable via basic experiment. Research chemical reactions inside batteries. |
| Why is the colour blue calming? | Sit people in blue room – ask how they feel  Sit people in red room – compare calmness  Not testable as asked (Can be reframed as testable) | Have people sit in blue, red, and white rooms. Use mood surveys or heart rate to compare calmness. |
| Does using emojis make people happy? | Send texts with emojis – ask if happier  Send texts without emojis – compare  Testable | Send messages with and without emojis. Ask people to rate how happy the conversation made them feel. |
| Can I solve the problem of my grandfather finding his way to the bathroom at night without turning on a light? | Install nightlights – observe if he finds it easier  Use glowing tape on floor – observe navigation  Testable | Try motion lights, glow-in-dark strips, or floor LEDs. Test if he can find the bathroom safely each night. |
| Does eating school lunch affect how alert people are in their afternoon classes? | Survey kids who ate lunch vs didn’t – compare afternoon focus  Testable | Survey alertness (or test performance) after lunch for students who ate vs didn’t eat lunch. |
| Does having plants in a house reduce the carbon dioxide level in the house? | Measure CO₂ in room with plants  Measure CO₂ in same room without plants  Testable | Place CO₂ meter in plant-filled room and plant-less room. Compare readings over several days. |
| Can I create a backpack/umbrella combination? | Design and build combo  Test usability, comfort, weather resistance  Testable | Design and build a prototype. Test if it works in rain, is easy to carry, and covers properly. |
| Why am I awesome? | Tell a joke – people laugh?  Help someone – they smile?  Wear a cool outfit – people compliment it?  Testable | Use a reaction chart (laugh = 3 pts, smile = 2 pts, no reaction = 1 pt).  Record the number of times the person smiles or says thank you. |
| Why are Reese’s Cups so good? | Give 10 people Reese’s Cups – do they rate it higher than other candies?  Ask people: “Do you like chocolate + peanut butter?” – yes or no?  Testable | Blind taste test with 3–4 chocolates.  Run a quick poll.  Analyze % who prefer that flavor combo. |
| Why is our galaxy moving? | Measure redshift of light from distant galaxies – does it suggest movement?  Do all galaxies appear to move away from each other?  Not Testable | Use NASA data or astronomy resources.  Analyze redshift patterns to infer motion.  Use simulation/model or star map software.  Observe data and identify patterns of movement. |
| Why do people watch tv? | Ask students: “Do you watch TV to relax after school?”  Ask 20 adults why they watch TV – entertainment, news, background noise?  Not Testable | Record reasons given.  Sort into categories and count frequency. |