# TAPS Plan for Focused Assessment of Science

| **Topic:** Forces | Year 5 Age 9-10 | Title: Spinners |
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| **Working Scientifically** **Do:** Measure, taking repeat readings  | **Concept Context** Identify the effect of air resistance that acts between moving surfaces. |
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## Assessment Focus

- Can children systematically collect results?
- Can children improve accuracy by repeating measurements?

## Activity *Today we are going to be aeronautical engineers*

Explore: make and drop a spinner. In groups consider variables and formulate a question *e.g. How does the length of wing/number of paper clips/size of paper affect the time it takes to fall?* Group roles may be useful e.g. dropper, timer, recorder, fair test checker. Children design their own table to record measurements with a focus on how they can make their results more reliable – repeat the test and take an average.

Groups or individuals to draw graphs then discuss patterns and accuracy of results. T7

## Adapting the activity

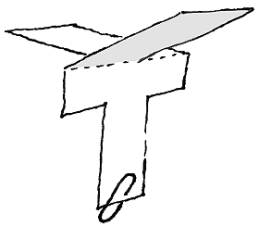
**Support:** Provide table to collect readings and axes for graph.

**Extension:** Children spot anomalies in data and provide possible reasons for them. Explore another question to investigate.

**Other ideas:** What if…we dropped it from a higher position, changed the shape of the wings, the material etc. Why do sycamore seeds spin?

## Questions to support discussion

- How are measuring as accurately as possible?
- Why did you repeat your measurements? Are there any measurements which you would repeat again?
- What kind of graph will you draw? Why did you choose a (line graph)? How did you choose your scales on the graph?
- What happened to the time when you changed the ….?
- Is there a pattern in your results? Can you describe it?
- Can you explain any anomalies in your results?



## Assessment Indicators

**Not yet met:** With support, measures and records results in given table /graph. Needs help to work out averages.

**Meeting:** Systematically takes repeat measurements and either chooses middle value or finds mean average to accurately plot points on a line graph.

**Possible ways of going further:** Is able to explain why repeat readings improve reliability, and spots anomalous results. Can describe pattern and shows evidence of understanding of forces e.g. *the longer the wings the bigger the air resistance so it takes longer to fall, until the wings get too big*.

T7 Teacher box 7 - time to reflect. See TAPS pyramid for more examples.