

Spinning patterns

Location

First floor, Curiosity zone exhibition

In a nutshell

Use our spinning disk to create patterns in the sand. Investigate the affect of changing the speed of the disk or the movement of the tool you use.

What to do

Add sand onto the spinning disc and use the stick to level it. Set the speed using the black dial. Use the tools to create your own patterns. What happens if you draw a line from the centre to the edge of the disc? How does changing the speed of the table change the pattern? If you draw circles clockwise and anticlockwise, do they look the same?

Time Required

KS1 & KS2 3-4 minutes per student.

What's happening?

When you draw any shape on the spinning disc, the pattern you see is not the actual shape you made with your finger, but a record of how your finger moved relative to the spinning disc. When you draw a straight line from the centre of the spinning turntable towards a point on the wall of the room, the turntable rotates beneath your finger as you draw the line. Your finger traces a curve on the turntable; as the spin is clockwise, the line appears to curve to the left when viewed from its starting point at the centre. The pattern on the turntable shows the motion of your finger from the perspective, or frame of reference, of a speck of sand on the spinning turntable (physicists would say that the speck of sand is in a 'rotating frame of reference').



Curriculum links

KS1/2	Science - Working scientifically
	- (Yr1 & Yr2) observing closely, using simple equipment
	English - Spoken language
	- give well-structured descriptions, explanations and narratives for different purposes, including for expressing feelings
	- use spoken language to develop understanding through speculating, hypothesising, imagining and exploring ideas

Relates to:

Workshops & Theme Days	Shows	Trails	Other exhibits
<ul style="list-style-type: none">Destination space (KS1 & KS2)Earth, Sun and Moon (KS1 & KS2)	<ul style="list-style-type: none">Field Day Forces (KS2)		<ul style="list-style-type: none">TurntableChanging WorldView of Earth

