Physical Sciences

- Forces can be exerted by one object on another through direct contact or from a distance (ACSSU076)

Resources and Preparation:

- Rope.
- Exercise band.
- Rubber tubing
- 2 x measuring tapes
- Trees/poles approx. 1.5m apart.
- Bandage.
- Elastic
- 2 x pinecones/tennis balls
- Clipboard/paper

Introduction (15mins):
Explore together how different slingshots can be created and used to propel objects distances and what positive uses they could have. Discuss what materials they could use to create their own giant slingshots and what properties these materials would need to have, e.g. stretchy, long, strong, elastic, easy to tie. Gather together some of the children's suggestions that fit all or some of the properties necessary, e.g. rope, bandage, exercise band, elastic, rubber tubing and allow children to touch, stretch and explore.

Activity 1 (25mins): Designing and constructing a giant Slingshot
In 2 groups, encourage children to choose 2 different 'stretchy' materials from those explored to test as a real-life slingshot. Each group must find a suitable and safe space in the school grounds between either 2 trees or poles approx. 1.5m apart. Each group then investigates tying each of the materials between their chosen trees/poles and launching pinecones/balls to see which is their preferred material and why.

Safety Note: Discuss with children how they can investigate their slingshot safely by making sure everyone in the group is behind the person operating it.

Activity 2 (20mins): The Slingshot Competition
Once each group has selected their slingshot material and is confident with the process of successfully launching their objects, hold a competition to see which group can propel their pinecone/ball the furthest. Each take turns, measure and record the distances travelled. Ask, 'How far back is best to stretch the slingshot to propel the object furthest (e.g. 30cm, 50cm or 75cm) and why?'