

Play Resource Presents Science from Scrap

Pneumatics

You will need:

Design sheets
2x20ml Syringes
Tubing
Card
Kitchen roll tubes
Masking tape
Pipe cleaners
Glue
Found materials in nature



How to use these resources for enquiry in Science/Maths

This activity focuses on how a pneumatic system works.

Challenge task: To design a habitat including a moving pneumatic system to make an animal move in and out of its home.

Instructions

- Give pupils different sized syringes and tubing and allow time to investigate how they can make syringes move.
- Ask pupil to explain what is happening from their observations.

Instructions for model

- Cut cardboard tube to simulate log.
- Paint the syringe, cardboard tube and card base.
- Add detail to log and base from found materials in nature.
- Make spider and attach to syringe.
- Align tubing and syringes.
- Place in log and secure syringe

Background Knowledge

Pneumatic systems use air pressure to make things move. The movement may be slow because the air is being compressed inside the tube. When it can be compressed no more, it pushes out the opposite syringe. By controlling the release of air into the system, we can turn that energy into controlled movement.

Key Questions

- What do you think will happen when you plunge one syringe?
- Why do you think this?
- What does happen when you do this?
- What do you think will happen if you plunge both syringes at once?
- What habitat and animal did you chose to make?
- How is your animal suited to this habitat?
- Could you use other materials or equipment to control movement?

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