

SCIENCE









Lesson 3

Prep

Topic: Investigating movement of objects

Exploring movement

Lesson concepts

-  The way objects move depends on a variety of factors, including their size and shape
-  Science involves exploring and observing the world using the senses
-  Questions can obtain responses
-  Observations can be made using the senses
-  Observations can be discussed and ideas can be represented
-  Observations and ideas can be shared

Learning alerts

Be aware of:

- students who cannot independently demonstrate different movements with their bodies or by drawing.

Suggested next steps for learning:

- Guide students to make a movement with their own bodies and then move an object in the same way. Repeat for other movements.

Today students will:

- ▶ understand that objects can move in different ways.

Resources

Digital

Video — Music to move to! Audio track 2 (Cruising) (2:33)

Find and prepare

Music player

Sheet — Movement word cards

Sheet — Movement station signs

Selection of objects for movement activities (for example: a piece of ribbon, a scarf, a tissue, a feather, a toy bear)

Movement station objects (see **Sheet — Movement station: notes**) for example:

Station 1: Rolling — a few small non-bouncy balls (for example: marbles, squash balls, newspaper balls, pebbles), cylinders (including wooden block, tennis ball can, plastic bottle, rolled-up newspaper, cardboard tube), metal lid, small hoop

Station 2: Bouncing — balls of various types, both bouncy and not so bouncy (including a rubber spiky type ball, football, basketball, soccer ball, small rubber balls, table tennis ball)

Station 3: Sliding — 1 or 2 ramps (depending on student needs), small boxes and containers, smooth-faced objects (for example: counters, lids, plastic plates), rubber glove, two shoes (one smooth-soled and one with grip), erasers

Station 4: Spinning — yo-yos, toy spinners or spinning tops, table tennis ball in a round plastic dish, toy helicopter, game spinner

Station 5: Vibrating — tuning forks, drum/tambourine with soft beater and a dozen or so grains of rice (when students tap the skin of the instrument, the rice will bounce due to vibrations), rubber bands around a box with a hole to make a box guitar, string instrument

Timer/stopwatch

Exercise book

Thick crayons — variety of colours

Key terms

For definitions and explanations of terms, please see the [Glossary](#).

Lesson

Note

Please prepare objects and movement boxes required in this lesson beforehand. Refer to **Sheet — [Movement station: notes](#)** for how to set up the activities. Use **Sheet — [Movement station signs](#)** to label each container of objects.

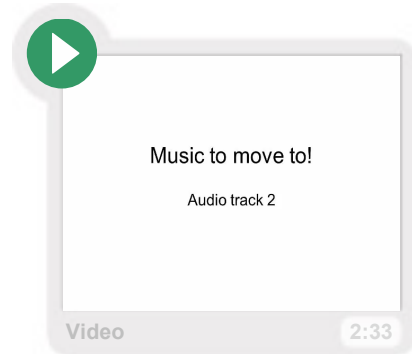


Respond to a movement stimulus

Say to students

Today, in our journey of learning about movement, we are going to begin to investigate how things around us move. To start the lesson, I have a selection of objects for you. Choose one and when I start the music, explore all the ways you can move this object in time with the music.

1. Provide objects and play **Video — Music to move to!**
Audio track 2 (Cruising).



Focus questions

Q: *What are the types of movements you could make with your object?*

A: For example: Ribbon — I could turn it 'round and 'round in circles. I could shake it. I could throw it up and then it would fall down. Toy bear — I could make him dance. I could make him clap his hands. His ears could bend and he could kick his legs.

Q: *Can you move your object from one place or location to another? Why?*

A: For example: Yes, because it is small enough and not heavy, so I can lift it and move it.

Q: *Does your object have any parts that can also be moved?*

A: For example: Toy bear. Yes, his ears, arms and legs can move.

Collect objects.

Classify objects that can move, are fixed or both

Say to students

‘ I have used the word ‘object’ a few times. An object is a general word to refer to all the things that can be both seen and touched. ’



2. Display the word card ‘object’ from **Sheet** — [Movement word cards](#).

object

Say to students

‘ Look around the room at all the objects including the room itself. Look for objects that can be moved easily like a pencil, and objects that cannot, like the wall. Think about why some objects would be hard to move. ’

Focus questions

Q: *What are some objects that are meant to stay in one location or place when we use them?*

A: For example: wall, window, cupboard.

Q: *Do any of these have parts that are designed to move?*

A: For example: Yes, sliding glass part, doors and drawers.

Q: *What are some objects that are meant to move when we use them?*

A: For example: stapler, toy car, ball.

Q: *Do any of those have parts that also move?*

A: For example: stapler yes; car yes; ball doesn't really have parts, the whole things just moves.

Q: *What do you think influences if an object stays in the one location or moves around a lot?*

A: For example: Whether it is big or little and heavy or light, whether it is screwed down.

Say to students

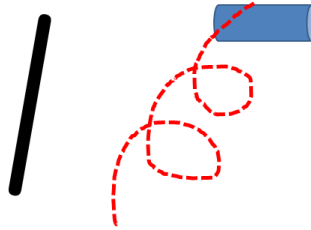
‘ So we can see that some objects are designed to be in one location and others are designed to move around. Some have moving parts and others do not. We can see that the size of an object can affect whether it can be moved and how it moves. We are going to do some exploring to find out how shape affects an object's movement. ’

Explore different types of movement

Say to students

‘ I have prepared some groups of objects that move in particular ways. You are going to make scientific observations of the objects using your senses. You are trying to investigate the link between the shape of an object and how it moves. I have placed the objects in boxes/bags and there is a label on each to tell you what movement you are to do with those objects. ’

3. Display the five containers (bags/containers/boxes/pillowcases) with objects enclosed.
 - a. Read the labels to identify each movement type.



Say to students

‘ You are to stay with one activity box until the timer sounds. You will have five minutes to explore some of objects in that container to see how their shape helps them move in a particular way. Then you pack up and move to the next movement type. Remember, you are to make scientific observations, not just play with the objects. ’

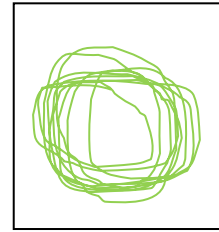
- b. Assign students to their first movement type.
- c. Use the timer to manage rotations.
- d. Observe and monitor the students' ability to investigate independently.
- e. When students have completed all stations, regroup and open exercise book.

Reflect on observations of movement

Say to students

One of the movement types you have just explored was rolling. We can represent rolling by drawing a line that goes round and round in a circle like this (model on scrap paper).

Choose a crayon and make a picture of rolling in your exercise book.



Focus questions

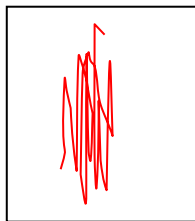
Q: *What did you observe about the shape of the objects in the rolling group?*

A: For example: They were all round or had round sides.

Q: *Why do you think this is an important thing for being able to roll?*

A: Because things have to be able to go over and over. If they're flat on one side, they won't keep going round.

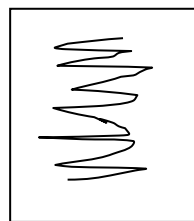
4. Repeat drawing and adapt the above questions about shape for the remaining movement types, changing crayon colour, for example:



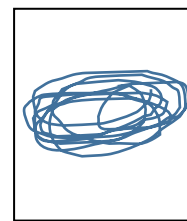
Bouncing



Sliding



Vibrating



Spinning