7. How Things Work

A. Fill in the blanks.

Paper, Motion, Sink, Charkha, Air, Centre, Water, Stone, Round, Light

1. A spinner spins best when the hole is in the _____.
2. A piece of _____ does not spin well.
3. _____ objects are more likely to float.
4. A bangle spins well because it is _____ and balanced.
5. A _____ is used to make thread from cotton.
6. Heavy objects usually _____ in water.
7. Testing objects in _____ helps us understand floating and sinking.
8. A spinner can be made using _____ or cardboard.
9. The spinning of objects is an example of _____.
10. Boats float because of their shape and the _____ inside them.

B. Choose the correct option.

1. Which of these objects can spin?
   (a) Eraser ☐ (b) Coin ☐
   (c) Stone ☐ (d) All of the above ☐
2. What happens when a spinning coin slows down?
   (a) Spins faster ☐ (b) Wobbles & stops ☐
   (c) Flies away ☐ (d) Changes shape ☐
3. What do colours of a fast spinner look like?
   (a) Separate ☐ (b) Bigger ☐
   (c) Mixed ☐ (d) Invisible ☐
4. Which Indian toy spins?
   (a) Kite ☐ (b) Lattu ☐
   (c) Ball ☐ (d) Doll ☐
5. Which of these is most likely to float in water?
   (a) A flat plastic plate ☐ (b) A sharp needle ☐
   (c) A big stone ☐ (d) A metal ball ☐

C. Match the following.

Column A	Column B	Ans.
1. Flat surface	i. More likely to sink	1. ____
2. Dense material	ii. Placed in centre	2. ____
3. Thermocol	iii. Floats due to trapped air	3. ____
4. Aluminium foil (cup shape)	iv. Used in kitchen	4. ____
5. Mixer	v. Helps in floating	5. ____
6. Toothpick	vi. Light and floats	6. ____

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D. Write whether the following statements are True or False.

1. We can change an object's shape to help it float. ☐
2. A coin spins forever without stopping. ☐
3. A pencil spins as well as a top. ☐
4. Motion includes movements like spinning. ☐
5. All light objects float in water. ☐
6. If water enters a floating object, it may sink. ☐
7. Changing only the colour of an object affects floating. ☐
8. Spinning is a type of motion. ☐
9. Colours may appear to mix when a spinner spins fast. ☐
10. All shapes look the same while spinning. ☐

E. Short Answer Questions.

1. What happens to a coin when it slows down after spinning?

Ans. _____

_____

2. Why does a round object spin better than other shapes?

Ans. _____

_____

3. What is needed at the centre of a spinner to help it spin properly?

Ans. _____

_____

4. What happens to the colours of a spinner when it spins very fast?

Ans. _____

_____

5. What do we call objects that stay on the surface of water?

Ans. _____

_____

6. Why does a stone sink in water?

Ans. _____

_____

7. What makes a boat float even though it is heavy?

Ans. _____

_____

8. What happens when water enters a floating object?

Ans. _____

_____

9. How does the shape of an object affect floating and sinking?

Ans. _____

_____

10. Give one example each of an object that floats and an object that sinks.

Ans. _____

_____

F. Long Answer & Value-Based Questions.

1. Why do some objects float while others sink?

Ans. _____

_____

_____

_____

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2. How does the shape of an object affect its ability to float? Explain with suitable examples.

Ans. _____

_____

_____

_____

3. Describe an activity to show how changing the shape of an object can change whether it floats or sinks.

Ans. _____

_____

_____

_____

4. Explain how to make a simple spinner. What factors affect how well it spins?

Ans. _____

_____

_____

_____

5. Why do spinning objects slow down and stop after some time? Explain the reasons.

Ans. _____

_____

_____

_____

6. Explain how the design and structure of boats help them float on water even though they are heavy

Ans. _____

_____

_____

_____

G. Classification of objects based on floating and sinking.

Iron nail, Glass marble, Wax, Marble, Thermocol, Candle, Paper boat, Coin, Cork, Leaf, Eraser, Spoon, Pencil, Ice-cube, Potato, Tomato, Pumpkin, Lemon, Feather

Floating	Sinking
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

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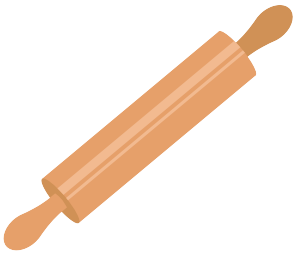
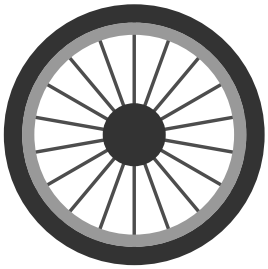
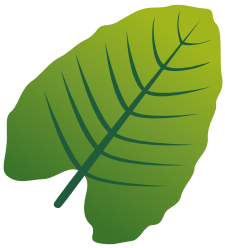
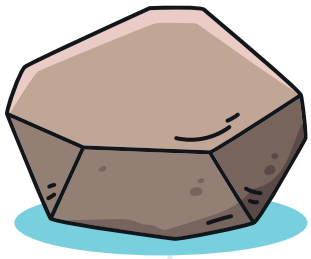
H. Put a tick (✔) in the circle next to the objects that can spin well.


I. Give one word answer.

I. A taste that is strong and spicy :- _____

II. When an object stays on the surface of water :- _____

III. An object that is closely packed and heavy :- _____

IV. A toy that spins on a pointed tip :- _____

V. A wheel that spins to make yarn :- _____

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Answer

A. Fill in the Blanks.

1. Centre	2. Stone	3. Light	4. Round	5. Charkha
6. Sink	7. Water	8. Paper	9. Motion	10. Air

B. Choose the correct option.

1. d) All of the above
2. b) Wobbles and stops
3. c) Mixed
4. b) Lattu
5. a) A flat plastic plate

C. MAtch the following.

1. - v	2. - i	3. - vi	4. - iii	5. - iv	6. - ii

D. True or False.

1. True	2. False	3. False	4. True	5. False
6. True	7. False	8. True	9. True	10. False

E. Short Answer Questions

1. When a coin slows down after spinning, it begins to wobble, loses its balance, and finally comes to a stop.
2. A round object spins better because it is evenly balanced and has no corners, which allows smooth and continuous motion.
3. A small hole at the centre, often with a stick or toothpick, helps the spinner stay balanced and spin properly.
4. When a spinner spins very fast, its colours appear to mix or blend, and it may look like a single colour.
5. Objects that stay on the surface of water are called floating objects.
6. A stone sinks in water because it is heavy and dense, so it cannot stay on the surface.
7. A boat floats because of its wide shape, which spreads its weight, and because air is trapped inside it.
8. When water enters a floating object, the air inside is reduced, making it heavier, and it may sink.
9. The shape of an object affects how its weight is spread. Wide and hollow shapes help objects float, while compact shapes may cause them to sink.
10. A leaf floats on water, while a stone sinks in water.

F. Long Answer Questions.

1. Objects float or sink depending on their weight, density, and shape. Objects that are less dense than water usually float, while those that are denser sink. Shape also plays an important role. Wide or hollow objects can trap air and spread their weight, helping them float. For example, a leaf floats, while a stone sinks. Even heavy objects can float if their shape allows them to displace more water, like ships.
2. The shape of an object affects how its weight is distributed. Objects with a wide and hollow shape spread their weight over a larger area and trap air, which helps them float. In contrast, compact or tightly packed shapes concentrate weight and may sink. For example, aluminium foil floats when shaped like a bowl but sinks when crumpled into a ball.
3. Take a piece of aluminium foil. First, shape it into a flat or bowl-like form and place it in water—it will float. Then, press it into a tight ball and place it in water—it will sink. This activity shows that changing the shape of an object can affect its floating and sinking.
4. A simple spinner can be made using paper or cardboard. Cut a round shape and decorate it with colours. Make a small hole in the centre and insert a toothpick or stick through it. Spin it using your fingers. The spinning depends on the shape, balance, and position of the hole. A round and well-balanced spinner with a centre hole spins smoothly, while an unbalanced one wobbles and stops quickly.
5. Spinning objects slow down and stop due to friction and air resistance. Friction occurs between the spinner and the surface or stick, reducing its speed. Air resistance also opposes motion. Over time, these forces reduce the energy of the spinning object, causing it to slow down and eventually stop.

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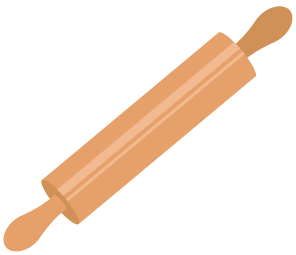
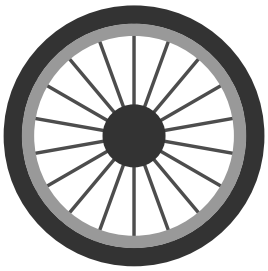
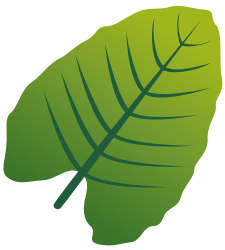
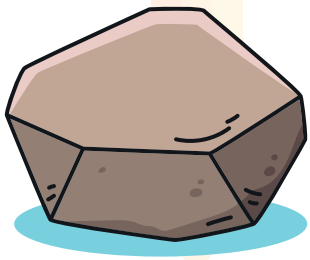
6. Boats are designed with a wide and hollow shape that helps them float. This shape spreads their weight over a large area and traps air inside, making them less dense overall. This allows them to stay on the surface of water. If water enters the boat, it becomes heavier and may sink. Therefore, proper design and structure are essential for floating.

G. Classification of objects based on floating and sinking

- Things that Float:- Wax, Thermocol, Candle, Paper boat, Cork, Leaf, Ice-cube, Pumpkin, Lemon, Feather
- Things that Sink:- Iron nail, Marble, Coin, Eraser, Spoon, Pencil, Potato, Tomato, Glass marble

H. Put a tick (✔) in the circle next to the objects that can spin well.


I. Give one word answer.

1. Pungent
2. Floating
3. Dense
4. Lattu
5. Charkha

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