

**Science Standard 3**

**Objective 1**

**Indicator 1**

**Content Objective(s):**

1. Describe, classify, and communicate observations about the motion of objects, e.g., straight, zigzag, circular, curved, back-and-forth, and fast or slow.
2. Compare and contrast the movement of objects using drawings, graphs, and numbers.

**Language Objective(s):**

1. Students can describe the motion of an object when it is blown to a partner.
2. Students can recognize  
\*motion, chart, blow, will/won't (did/didn't)
3. Students will write  
\*will/won't (did/didn't)

**Essential Questions:**

How can we investigate the natural world in my neighborhood?

**Academic Vocabulary:**

Motion, blow, will/won't (did/didn't) 物体运动, 吹, 会/不会

-Variety of small, unbreakable objects (balls, blocks, bottles, lids, feathers, pencils, chalk, etc.)

-“Motion” chart

**Language References and Word Wall:**

Motion, blow, will/won't (did/didn't), straight, curved, back and forth, various objects used in the experiment  
物体运动, 吹, 会/不会, 直线, 曲线, 前后, 实验中使用的不同物体

**Sentence Frames:**

Will it move if you blow it? 如果你吹它会移动吗?  
It will/It won't 它会/它不会  
Did it move? 它移动了吗?  
It did/It didn't 有/没有

**Lesson: Experiment**

**Instructional time:**  
**About 45 minutes**

**Opening (Warm Up/Review): (5 minutes)**

- Show the students two objects: one that is easy to move like a toy car and another that is hard to move like a heavy box. Tell the students that sometimes you need to move things and some things are harder to move than others.
- Have some students try to come up and move the car or heavy box (try to slide it) from one table to another. Tell the students that this week you are going to do some experiments about movement or motion.

**Language Building: (10 minutes)**

- Show the various objects that you have collected. Use TPR and oral drill (yes/no, either/or, or WH questions) to practice the names of the objects. If appropriate teach the written words for the objects as well.
- Teach the word “blow” by demonstrating how to blow something. Show the students the character for “blow” and have them practice writing it on slates (小白板) or on another student’s back.

**Experiment and Record: (15-20 minutes)**

Use the modeling cycle:

- Give each of the students a “Motion” chart.
- Choose one of the objects and place it on a table. Ask a student to come up front and try to make the object move by blowing it.
- Have each student record the results on the chart.
  - Model for the students how to write on the chart by using an LCD projector(实物投影仪) or copy the chart on the board. (或将表格放大贴到白板上)
  - The students can draw a picture, paste written words, or write the words under the “Objects” heading, according to ability.
  - The students should write their prediction in column 2 (will or won't move) 会 / 不会, and then the result in the next column (did or didn't move) 会 / 不会。
  - If the object moves, have the students draw the motion in the last column on the chart. Identify the motion (e.g., straight, curved, back and forth etc.), and talk about whether the object is moving fast or slow.
- Continue with other objects. Choose students to come up front, select an object, and try to blow it across the table. Continue to fill the chart out together as a class after each object.

**Discussion and Report: (10 minutes)**

- After the charts have been completed have each student tell a partner about their chart. (两人汇报) Have one partner tell about the even numbers and the other partner tell about the odd numbers. (一人说单数，一人说双数)
- Ask the students,
  - “Why were some shapes easy to move?” “为什么有的形状容易移动？”
  - “Why were some shapes hard to move?” “为什么有的形状很难移动？”
  - “What shapes were easy to move?” “容易移动的是什么形状？”
- Have the students, “Think, Pair, Share.” (想一想，两人练习，分享) After the teacher asks a question, they should take a minute to think about the answer (Think). Next they should share the answer with a partner (Pair). Finally, the pair should share their answer with another pair.

**Closing: (5 minutes)**

- Review with the students, “What objects were easy to move by blowing? What objects were hard to move by blowing?”  
“哪些物体容易被吹动？哪些物体很难被吹动？”
- Tell the students you will do another motion experiment the next day. You will be looking at another way to move. Have the students think about other ways to move when they go home.

**Assessment:**

Observe how the students tell their partners about their “Motion” chart. Observe the students when they do “Think, Pair, Share” to see if they can successfully communicate their answers to the questions.

# 物体运动表格

运动类型: \_\_\_\_\_

(吹, 滚, 滑)

物体	预测 会/不会	结果 会/不会	画出运动路线
1			
2.			
3.			
4			
5			

**Science Standard 3**

**Objective 1**

**Indicator 1,2,3**

**Content Objective(s):**

1. Describe, classify, and communicate observations about the motion of objects, e.g., straight, zigzag, circular, curved, back-and-forth, and fast or slow.
2. Compare and contrast the movement of objects using drawings, graphs, and numbers.
3. Explain how a slide (a push or pull) can affect how an object moves.

**Language Objective(s):**

1. Students can orally describe the motion of an object when it is rolling.
2. Students can recognize  
\*roll, motion, will/won't, (did/didn't)
3. Students will write  
\*will/won't (did/didn't)

**Essential Questions:**

How can we investigate the natural world in my neighborhood?

**Academic Vocabulary:**

Roll, push, pull, drop, slide 滚, 推, 拉, 丢下, 滑  
Additional: straight, curved, fast, slow, round, gravity 直线, 曲线, 快, 慢, 圆周运动, 重力

**Materials:**

-Variety of small, unbreakable objects (balls, blocks, bottles, lids, feathers, pencils, chalk, stapler, paper clips, books, toy cars etc.)  
-Wide board or cardboard for a ramp. Create a ramp by leaning the board or cardboard against a pile of books.  
-"Motion" chart

**Language References and Word Wall:**

roll, push, pull, drop, slide, straight, curved, fast, slow, round, gravity, various objects used in the experiment  
滚, 推, 拉, 丢下, 滑, 直线, 曲线, 快, 慢, 圆周运动, 重力, 实验使用的不同物体

**Sentence Frames:**

**Lesson: Experiment**

**Instructional time:**  
**About 45 minutes**

**Opening (Warm Up/Review): (5 minutes)**

- Open the class by having a few students come up front and talking about their "Motion" chart from the day before.
- Remind the students that you asked them to think about other ways to move. Ask students to share with you some of their ideas. Students can demonstrate other ways of moving. Tell the students that you will be talking about rolling today.

**Language Building: (10 minutes)**

- Teach the word "roll" by demonstrating how to roll something. Show the students the character for "roll" and have them practice writing it on slates (小白板) or on another student's back.
- Teach the words, "push and pull" by demonstration.
- Show the various objects that you have collected to use. Use TPR and oral drill (yes/no, either/or, or WH questions) to practice the names of any new objects. If appropriate teach the written words for the objects as well.

**Experiment and Record: (15-20 minutes)**

Use the modeling cycle:

- Give each of the students a "Motion" chart.
- Choose one of the objects that rolls and have a student place it on the ramp. 选一个会滚的物体, 并让学生将它放到斜面上。
- Have each student record the results on the chart.
  - Model for the students how to write on the chart (use an LCD projector or copy the chart on the board). (使用实物投影仪或将表格放大贴到白板上)
  - The students can draw a picture, paste written words, or write the words under the "Objects" heading, according to ability.
  - The student should write their prediction in column 2 (will or won't move) 会 / 不会, and then the result in the next column (did or didn't move) 会 / 不会。
  - If the object moves, have the students draw the motion in the last column on the chart. Identify the motion (e.g., straight, curved), and talk about whether the object is moving fast or slow.
- Continue with other objects. Choose students to come up front, select an object and place it on the ramp to see if it rolls. If the item doesn't roll, have the students slide it down the ramp by pushing or pulling. Continue to fill the chart out together as a class after each object.

**Discussion and Report: (10 minutes)**

- After the charts have been completed have each student tell a partner about their chart. (两人汇报) Have one partner tell about the even numbers and the other partner tell about the odd numbers. (一人说单数，一人说双数)
- Ask the students,
  - “What shapes move the easiest?” (round) “最容易移动的形状是什么？” (球体)
  - “If an object doesn’t roll what can you do to move it?” (slide -push or pull) “如果一个物体不会滚动，你可以怎样移动它？” (滑动-推或拉)
  - “What happens if you drop an object?” (it falls) “如果你丢下一个物体，会发生什么？” (它会落下)
  - “Why does it do that?” (If appropriate, bring up the notion of gravity) “为什么它会落下？” (如果可以，加入“重力”概念)
- Have the students, “Think, Pair, Share.” (想一想，两人练习，分享) After the teacher asks a question, they should take a minute to think about the answer (Think). Next they should share the answer with a partner (Pair). (两人分享) Finally, the pair should share their answer with another pair or the class (Share). (全部分享)

### Optional Extensions

Marble races: Have students discover that you can change the speed of rolling by changing the steepness of the ramp. Use a wrapping paper tube that you have cut in half, Allow students to create a ramp using more/fewer books and fins out which marble reaches the finish line first

弹珠比赛：让学生发现改变斜坡的斜度可以改变球滚动的速度。学生用纸揉成不同的管子，上面放上一些书做出斜坡。谁的弹珠先到终点，谁是胜利者。

### Closing: (5 minutes)

- Ask some of the pairs to come up front and share their answers with the class. Discuss the answers as a class.
- Review for the students: “Today we talked about rolling. What objects roll easily? If an object doesn’t roll, what can you do? (push/pull)” “今天我们学习了滚动。哪些物体容易滚动？如果一个物体不会滚动，你可以怎么办？(推/拉)”
- Tell the students you will do another motion experiment the next day.

### Assessment:

Observe how the students tell their partners about their “Motion” chart. Observe the students when they do “Think, Pair, Share” to see if they can successfully communicate their answers to the questions.

# 物体运动表格

运动类型: \_\_\_\_\_

(吹, 滚, 滑)

物体	预测 会/不会	结果 会/不会	画出运动路线
1			
2.			
3.			
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5			

# Lesson: Objects Move, Part 3-Spinning

Reference to English  
Interconnections Lesson  
Objects Move Pg. 131

## Science Standard 3

### Objective 1

#### Indicator 1

#### Content Objective(s):

1. Describe, classify, and communicate observations about the motion of objects, e.g., straight, zigzag, circular, curved, back-and-forth, and fast or slow.

#### Language Objective(s):

1. Students can orally describe the motion of an object when it is spinning.

#### Essential Questions:

How can we investigate the natural world in my neighborhood?

#### Academic Vocabulary:

Motion, blow, will/won't (did/didn't) 物体运动, 吹, 会/不会

#### Materials:

-5 ½ inch x 1 inch strips of paper

-8 ½ inch x 1 inch strip of paper, with edges cut (see pattern)

#### Optional Extension Materials

-wrapping paper tubes

-marbles,

-bag of sand (25lbs)

-carpet roll tubes

-tarp

#### References and Word Wall:

Spin, spinners 旋转, 旋转纸条

## Lesson: Experiment

### Instructional time:

About 45 minutes

#### Opening (Warm Up/Review): (5 minutes)

Open the class by having a few students come up front and talking about their "Motion" chart from the day before.

#### Language Building: (5-10 minutes)

- Tell the students that they have learned about objects that blow, roll, get pushed or pulled, and fall. Now you are going to talk about things that spin.
- Demonstrate the word "spin" by having a student come up front and turning him around quickly. (Make sure that there is a lot of space so that the student won't get dizzy and fall or run into something.)
- Alternatively, you could use a toy top to demonstrate spinning (place it under document camera if possible so students can see it up close). (可以放到实物投影仪下, 让学生看得更清楚。)

#### Experiment and Record: (15-20 minutes)

Tell the students that they are going to make some paper spinners. (学生制作旋转纸条)

#### Use the modeling cycle: (Spinner 1)

Spinner 1: Strip of Paper Spinner. Give each student a 5 ½ x 1 inch piece of paper (see pattern) and have them drop it to the floor. (If there is a step to stand on to get more height that is helpful but for safety, do not have students stand on unsafe/high objects.) (旋转纸条)

- Spinner 2: Round Spinner. Give each student the paper pattern for a round spinner (see pattern). Demonstrate how to cut the dotted lines and link the cut edges together. Have the students make the "Round Spinner" and drop it. (圆形旋转纸条)

Spinner 3: Triangle Spinner. If time permits have the students make triangle spinners (see pattern). Demonstrate how to cut the paper on the dotted lines and link A and B together. (三角形旋转纸条)

#### Discussion and Report: (5-10 minutes)

- Choose some students to come up and model each of the spinners.
- After each spinner is dropped ask the students, "How did the paper fall?" Have them pair up with a partner and tell how the paper fell (e.g., it fell straight, it curved etc.). (丢下旋转纸条后问学生: "纸是怎么下落的?" 学生两人一组并讨论纸的下落。例如: 直线下落, 曲线下落等等)

- Perhaps have pairs of students come up and drop their spinners at the same time. Discuss which spinner was faster.

**Optional extensions:**

- Make paper airplanes or blow bubbles and talk about how they move (float, spin, fall etc.)
- Go outside or to the gym and do movement relay races. Students must roll from start to finish and tag another student who will then spin back to the starting line. You could also add a push/pull activity.
- Invention Challenge: For advanced learners, give students this scenario: “You are building a giant sandbox in the backyard. The deliveryman left all the bags of sand in the driveway in the front yard. You have to move bags of sand from the driveway to the backyard. Give students a 25lb bag of sand and have them try to move it. Ask them to come up with a way that would be easier to move the sand. Give them a box of possible materials (they could create a “wagon” using a board and carpet roll tubes or they could create a sled using a tarp and some rope, or they could come up with something even more creative).

**Closing: (1 minutes)**

- Review with the students: “Today we talked about spinning. When things spin, they can spin in a straight or curved way. They can be fast or slow. (当物体旋转时，他们可以是直线旋转或曲线旋转。他们可以旋转得很快或很慢。)
- Ask the students to take their spinners home and show and tell their parents about spinning motion. They should teach their parents the word for “spinning” and the word for “motion”.
- Have the students take home their motion charts and explain them to their parents.

**Assessment:**

Observe how the students tell their partners about the motion of their spinners.



# 转盘图样

## 旋转图案

给学生一人剪一个。

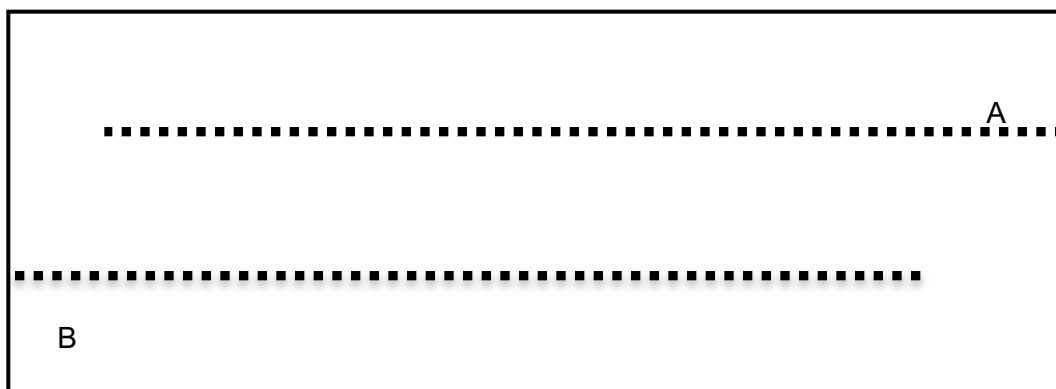
## 旋转纸条



## 圆形旋转纸条 沿着虚线剪开



## 三角形旋转纸条



沿虚线剪开，  
A 的背面和 B  
的背面连起来  
(保持字母正面  
向上)