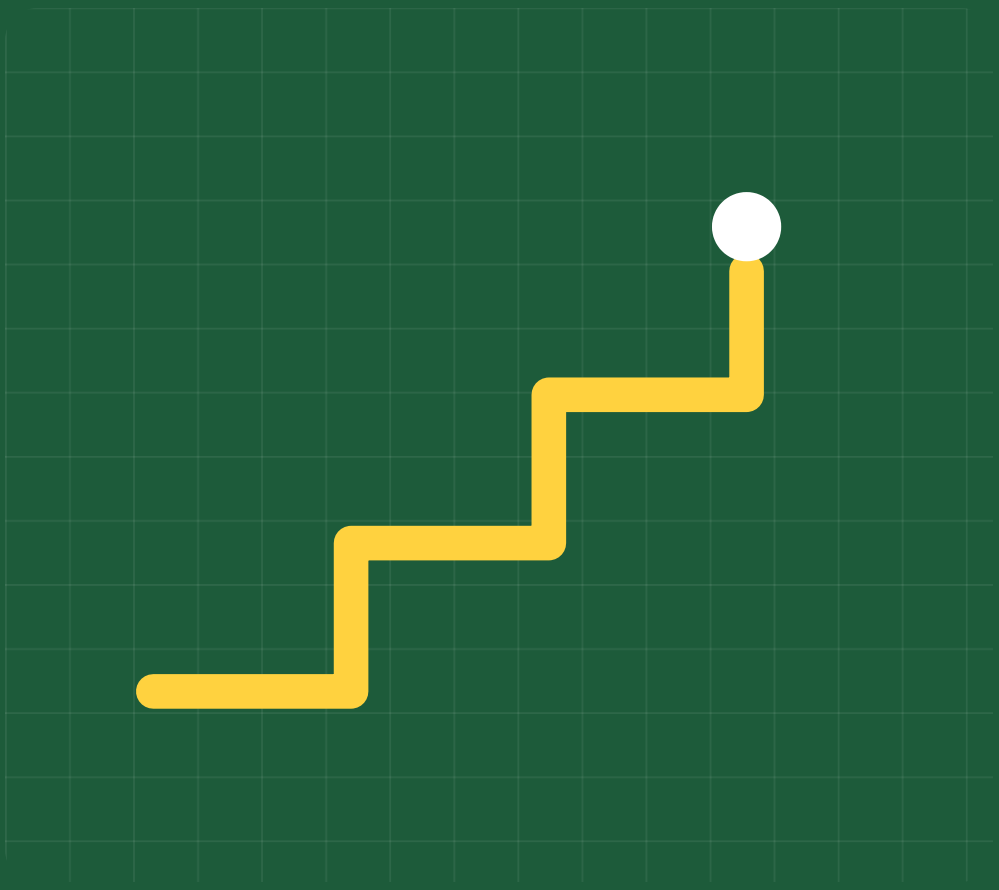
UpOnly Learning



GRADE 2

FREE SAMPLE WORKBOOK

Science Grade 2

One step at a time. · Ages 7–8 · Free sample: 1 of 8 topics

UO-SCI-2

OUR STORY

One step at a time

I'm Dr. Evan J. Hasson. I've run a specific chiropractic practice for over twelve years, and I'm a dad of three. My work is about alignment: get the structure right, and everything else works better.

At home, nothing was aligned. I was spending thousands a month on tutors, extracurriculars and programs, and when I asked about enrolling a second or third child the answer was always the same: that'll be double, that'll be triple. The charter school had a waiting list. The good public school had a waiting list. The private schools had the kind of list where it helps to know someone, or to give generously first.

And underneath all of it, the same quiet threat: if you don't pay for this, your child will fall behind. Not sold with evidence. Sold with fear.

So I did my own research, and here is what I found: none of it is secret. The standards are published. The order a child should learn in is written down and freely available. It is just scattered. Nobody had done the work of pulling it together, putting it in order and handing it over. So I did.

When every step has its place, confusion has nowhere to hide.

I built this for my own kids. I'm giving it to yours.

Dr. Evan J. Hasson, DC
Founder and dad of three

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No guaranteed results, and mistakes happen. Every student learns differently. We write and review every question and answer key carefully, and we still get things wrong. An answer key can be wrong, and a question can be worded badly or have two defensible answers. Check the answer key before you hand it over, and trust your own judgment over ours. Found a problem? **Photograph the page and email it to support@uponlylearning.com**. The picture tells us more than a description, and we fix it for every family.

Safety. Some activities use household items such as scissors, coins or food. An adult should supervise and skip anything unsafe for the student.

Not professional advice. This workbook does not replace an evaluation by a qualified educator or specialist. The founder is a Doctor of Chiropractic; UpOnly Learning does not provide medical or health advice.

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INTRODUCTION

How to use this workbook

Each topic follows the same steps, so your student always knows what comes next.

① **Quick Check.** 10 questions before you teach. Read them aloud for younger students. A high score means you can move faster.

② **Learn It.** Key words, step-by-step teaching with lines you can read aloud, worked examples and the mistakes to watch for.

③ **We Do It Together.** 10 questions you do side by side. The answer and the "why" are printed right after each question, so you can talk it through.

④ **You Try.** 10 questions your student does alone.

Answers with short explanations for every question are in the **Answer Key** at the end of each topic, so students can work without peeking. Go over each wrong answer together using the explanation.

This workbook is printed in full color. To save ink, choose "Black and white" or "Grayscale" in your printer settings; every page still works in black and white.

Want online checks that score themselves and track each student's progress? Visit uponlylearning.com.

GRADE 2

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Topic 1 · Sorting materials by properties **6**

Describe and classify materials by color, texture, hardness, flexibility and whether they float 2-PS1-1

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Sorting materials by properties

The student will describe and classify materials by observable properties such as color, texture, hardness, flexibility and whether they sink or float.

① Quick Check

Do this before the lesson. It shows what your student already knows. Score: ____ / 10

1. Which object is shiny?

A A clump of dry dirt **B** A wool sweater **C** A paper towel **D** A new metal spoon

2. Which object would most likely sink in a tub of water?

A A foam cup **B** A leaf **C** A ping pong ball **D** A steel bolt

3. What does 'flexible' mean?

A Can bend without breaking **B** Sinks in water right away **C** Very shiny **D** Very heavy

4. Which object can you see through?

A A metal can **B** A brick **C** A clear plastic cup **D** A wooden door with a handle

5. Which pair has the SAME texture?

A Sandpaper and a mirror **B** Tree bark and a feather **C** A silk ribbon and a glass plate **D** A pinecone and a balloon with air

6. Which object belongs with this group: rope, scarf, yarn?

A A shoelace **B** A glass cup **C** A pencil **D** A stone

7. Which object is soft AND floats?

A A metal nail **B** A glass marble **C** A coin **D** A dry sponge

8. Which property makes a rubber boot good for a rainy day?

A It is rough **B** Water does not go through it **C** It soaks up water **D** It is clear

9. Which set of properties would be best for a fish tank?

A Rough and flexible **B** Soft and absorbent **C** Clear, hard and holds water **D** Fluffy and light

10. A sock and a sponge can both soak up water. Which other property do they share?

A Both are soft **B** Both are clear **C** Both are hard **D** Both are made of metal

② Learn It

MATERIALS a bowl of water; a collection of small objects: wooden spoon, metal spoon, cotton ball, rubber band, plastic lid, coin, rock, sponge, paper clip, piece of cloth; a towel; paper and pencil for a chart

Key words

- **material**: what an object is made of, like wood, metal or plastic
- **property**: something you can observe about a material, like color or how hard it is
- **texture**: how something feels: smooth, rough, soft
- **flexible**: can bend without breaking
- **classify**: sort into groups

Warm-up

1. Hand the student a wooden spoon and a metal spoon.
2. Ask: how are they the same? How are they different?

> *Scientists describe things by their properties. Let's be material detectives.*

Teach

1. Explain properties: color, texture (rough, smooth, soft), hardness (hard or soft), flexibility (bends or does not), and sink or float.
2. Test one object for each property together, for example: rubber band is flexible; rock is hard and rough.
3. Ask: What do you think will happen to each object? Then drop a cotton ball, a coin and a plastic lid in water. Observe and record sink or float. Ask: What happened and why? (A cotton ball floats at first and may sink after it soaks up water.)

Object	I predict	What happened
cotton ball		
coin		
plastic lid		

> *A property is something we can see, feel or test.*

Guided practice

1. Make a chart with columns: Object, Material, Hard or Soft, Bends?, Sinks or Floats.
2. Predict first, then test each object and fill in the chart together.

Object	Material	Hard/soft	Bends?	In water
wood spoon				
metal spoon				
sponge				
coin				

3. Sort the objects into groups by one property, then re-sort by another.

> *Can you sort these a different way?*

Worked examples

Describe a rubber band using properties.

It is flexible, stretchy, smooth and made of rubber. It can be many colors.

Sort a coin, a cork and a paper clip by sink or float.

Object	Sinks or floats
coin	sinks
cork	floats
paper clip	sinks

Cork floats. Coin and paper clip sink.

Watch for these mistakes

Mistake: Big things always sink and small things always float.

Fix: Float a big plastic lid and sink a tiny paper clip. What it is made of matters more than size.

Mistake: Things can only be sorted one way.

Fix: Sort the same objects by hardness, then by color. One group of objects can be sorted many ways.

PARENT TIP Keep a towel ready for sink and float tests and wipe up spills right away so no one slips. Let the student do the testing hands-on.

GO FURTHER Hunt for five objects in the kitchen and describe each one with three properties for someone else to guess.

③ We Do It Together: 10 questions

> *Do these side by side. Read each question together, let your student answer, then read the answer and the "why" right below it and talk it through.*

1. Which object is hard?

A A marshmallow **B** A wool hat **C** A metal pot **D** A wet soft noodle

> **Answer: C** A metal pot
> **Why:** A metal pot keeps its shape when you press it.

2. How does sandpaper feel?

A Smooth **B** Squishy **C** Stretchy **D** Rough

> **Answer: D** Rough
> **Why:** Sandpaper has tiny bumps of grit, so its texture is rough.

3. How does a cotton ball feel?

A Cold and shiny **B** Soft and fluffy **C** Hard **D** Rough and very sharp

> **Answer: B** Soft and fluffy
> **Why:** A cotton ball is soft and squishes easily.

4. You drop a metal key into water. What happens?

A It sinks **B** It bends **C** It turns soft **D** It floats

> **Answer: A** It sinks
> **Why:** A solid metal key sinks in water.

5. Which object belongs with this group: cotton ball, pillow, sponge?

A A rock **B** A brick **C** A metal spoon **D** A marshmallow

> **Answer: D** A marshmallow
> **Why:** The group is soft things. A marshmallow is soft.

5. Which describes a glass jar best?

A Clear, smooth and hard **B** Squishy and absorbent **C** Rough, flexible and stretchy

D Soft, fluffy and bendy

> **Answer: A** Clear, smooth and hard
> **Why:** Glass is see-through, smooth and hard.

6. How are a metal spoon and a wooden spoon DIFFERENT?

A One is soft and one is hard **B** One sinks and one floats **C** One is a spoon and one is a fork

D They are not different

> **Answer: B** One sinks and one floats
> **Why:** The metal spoon sinks and the wooden spoon floats.

7. Which material would make the softest pillow?

A Wood chips **B** Pebbles **C** Metal nuts **D** Feathers

> **Answer: D** Feathers
> **Why:** Feathers are soft and squishy, good for a pillow.

8. Which is the best evidence that a sponge is soft?

A It squishes when you press it **B** It is shaped like a rectangle **C** It is yellow **D** It is from a store

> **Answer: A** It squishes when you press it
> **Why:** Changing shape when pressed is evidence of softness.

9. An object is hard, shiny, cold to touch and sinks in water. What is it most likely made of?

A Wood **B** Metal **C** Cloth **D** Foam

> **Answer: B** Metal
> **Why:** Metal is hard, shiny, feels cold and sinks.

④ You Try: 10 questions

Now your student works alone. Check answers in the Answer Key at the end of this topic. Score: ____ / 10

1. Which object is flexible?

A A glass jar **B** A shoelace **C** A stone **D** A wooden block

2. Which is a property you can see with your eyes?

A How it sounds **B** How it tastes **C** How it smells **D** Color

3. What material is a T-shirt usually made of?

A Metal **B** Cloth **C** Glass **D** Stone

4. Which question helps you test flexibility?

A Does it bend without breaking? **B** Is it heavy? **C** Is it shiny when light hits it? **D** Does it sink?

5. You want to sort a feather, a stone, a pillow and a hammer into two groups. Which property would split them into soft and hard?

A Overall size **B** Shape **C** Color **D** Hardness

6. Lily sorted buttons by color. Then she sorted the same buttons by size. What does this show?

A Objects can only be sorted one way and in no other way

B The same objects can be sorted in different ways **C** The buttons changed color

D She made a mistake

7. Which object does NOT belong in a group of things that float: cork, leaf, coin, foam cup?

A Leaf **B** Cork **C** Foam cup **D** Coin

8. Look at the two groups. Which rule sorts these groups?

Group A	Group B
blanket	brick
pillow	rock
cotton ball	metal pan

A Same color **B** Soft or hard **C** Sinks or floats **D** Clear or not clear

9. An object is hard, brown, has a grain pattern and floats. What is it most likely made of?

A Stone **B** Metal **C** Wood **D** Glass

10. Which object has ALL of these properties: hard, rough, sinks?

A A smooth glass bead **B** A cork **C** A sponge **D** A chunk of brick

Sorting materials by properties: Answers and explanations

① Quick Check

1. Which object is shiny?
   D A new metal spoon
   Metal reflects light, so a new spoon looks shiny.

2. Which object would most likely sink in a tub of water?
   D A steel bolt
   A solid steel bolt sinks.

3. What does 'flexible' mean?
   A Can bend without breaking
   Flexible things bend and do not snap.

4. Which object can you see through?
   C A clear plastic cup
   Clear plastic lets light through, so you can see through it.

5. Which pair has the SAME texture?
   C A silk ribbon and a glass plate
   Both a silk ribbon and a glass plate feel smooth.

6. Which object belongs with this group: rope, scarf, yarn?
   A A shoelace
   The group is flexible things. A shoelace bends easily.

7. Which object is soft AND floats?
   D A dry sponge
   A sponge squishes, so it is soft, and a dry sponge floats.

8. Which property makes a rubber boot good for a rainy day?
   B Water does not go through it
   Rubber keeps water out, so your feet stay dry.

9. Which set of properties would be best for a fish tank?
   C Clear, hard and holds water
   You need to see the fish, keep the shape, and hold the water.

10. A sock and a sponge can both soak up water. Which other property do they share?
    A Both are soft
    A sock and a sponge both squish when pressed.

④ You Try

1. Which object is flexible?
   B A shoelace
   A shoelace bends without breaking, so it is flexible.

2. Which is a property you can see with your eyes?
   D Color
   You see color with your eyes.

3. What material is a T-shirt usually made of?
   B Cloth
   T-shirts are made of cloth, which is soft and bends.

4. Which question helps you test flexibility?
   A Does it bend without breaking?
   Flexible things bend without breaking.

5. You want to sort a feather, a stone, a pillow and a hammer into two groups. Which property would split them into soft and hard?
   D Hardness
   Sorting by hardness gives soft (feather, pillow) and hard (stone, hammer).

6. Lily sorted buttons by color. Then she sorted the same buttons by size. What does this show?
   B The same objects can be sorted in different ways
   One set of objects can be grouped by many different properties.

7. Which object does NOT belong in a group of things that float: cork, leaf, coin, foam cup?
   D Coin
   A coin sinks. The others float.

8. Look at the two groups. Which rule sorts these groups?
   B Soft or hard
   Group A is soft and Group B is hard.

9. An object is hard, brown, has a grain pattern and floats. What is it most likely made of?
   C Wood
   Wood is hard, often brown with grain lines, and floats.

10. Which object has ALL of these properties: hard, rough, sinks?
    D A chunk of brick
    Brick is hard and rough, and a chunk of brick sinks.

THE FULL WORKBOOK

Keep going with the full Science workbook

You just tried one topic. The full Grade 2 workbook has every topic below, each with a Quick Check, a lesson, We Do It Together, up to 90 You Try questions, Show What You Know and a full answer key.

1. Sorting materials by properties 2-PS1-1
2. Heating and cooling changes 2-PS1-4
3. What plants need to grow 2-LS2-1
4. How animals help plants 2-LS2-2
5. Life in different habitats 2-LS4-1
6. Fast and slow Earth changes 2-ESS1-1
7. Mapping land and water 2-ESS2-2
8. Comparing two designs with a test K-2-ETS1-3

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