

TEACHER PACK

Yasmina in Digital Wonderland

Thirteen stories and one companion workbook, with the material to teach them: learning objectives, curriculum strands, vocabulary, discussion prompts and one off-screen classroom activity for every book.

- One page per book, printable on its own
- Four discussion prompts per book, ordered recall, reason, reach
- An activity needing paper and pencils, not devices
- Ages 5 to 10 for the stories, 7 to 12 for the workbook

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Before you start

EACH BOOK PAGE HOLDS

- **Objectives** written as what a child can do afterwards, so they can be assessed by watching rather than testing.
 - **Strands** named to the common areas of primary computing and digital literacy. They are deliberately not cited to one country's codes, so that a strand is never wrongly attributed.
 - **Vocabulary** with definitions in words a six-year-old already owns.
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THE PROMPTS

The four prompts move outward on purpose. The first is answerable from the book, so every child can speak. The last has no correct answer, so the conversation does not close.

THE ACTIVITIES

Every activity is off-screen and needs ordinary classroom materials. A lesson about technology does not have to be delivered through a screen, and a school with six tablets between thirty children should not be shut out.

THE WEBSITE

Each book has a game at yasminawonderland.com/games. The opening rounds are free to anyone. They are listed on each page with the thinking they practise, so you can decide whether one is worth the lesson time.

READING ORDER

The books stand alone and can be taught in any order. Taught in sequence, each set builds: what technology is, then how it is built, then where it turns up in the world.

Yasmina and the Tech Surprise

Topic: Technology · Ages 5 to 10

Technology is anything people made to solve a problem, which includes a spoon as well as a satellite.

LEARNING OBJECTIVES

By the end, a child can:

- Sort everyday objects into made-by-people and found-in-nature
 - Explain that a tool is something made to solve a problem
 - Give an example of a technology that is not electronic
-

CURRICULUM STRANDS

- Digital literacy: what technology is
 - Design and technology: purpose of a made object
-

VOCABULARY

technology

Anything people made to help solve a problem.

invention

A new thing nobody had made before.

problem

Something that is hard, that you would like to make easier.

DISCUSSION PROMPTS

In order: recall, then reason, then reach.

1. What was in the box, and how did Yasmina work out what it was?
 2. Is a pencil technology? What problem does a pencil solve?
 3. Name one thing in this room that is technology and one that is not. How did you decide?
 4. If you could invent something to solve one problem in your day, what would it be?
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CLASSROOM ACTIVITY

The Museum of Ordinary Things

30 minutes · Paper, pencils, one ordinary object per pair

1. Give each pair one ordinary object: a zip, a spoon, a shoelace, a clothes peg.
 2. They write a museum label: what problem does it solve, and what did people do before it?
 3. They draw the object as though it were a famous invention on display.
 4. Each pair presents their label in one sentence. The class votes for the most surprising.
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WHERE THIS LEADS

Inventor · Product designer · Engineer

ON THE WEBSITE

Tech Treasure Hunt — Sorting and classifying by attribute

What Is in the Box? — Narrowing a field by yes-or-no questions, the root of debugging and search

Yasmina and the Invisible Helpers

Topic: Sensors · Ages 5 to 10

Sensors are how a machine notices the world: light, heat, movement, sound, touch.

LEARNING OBJECTIVES

By the end, a child can:

- Name three things a sensor can detect
 - Point to a sensor in the classroom and say what it senses
 - Explain that a machine does nothing until something tells it to
-

CURRICULUM STRANDS

- Computing: inputs and outputs
 - Science: the senses, light and sound
-

VOCABULARY

sensor

A part that notices something, like an eye or an ear for a machine.

input

Information going into a machine.

automatic

Happens by itself, without a person pressing anything.

DISCUSSION PROMPTS

In order: recall, then reason, then reach.

1. Which invisible helpers did Yasmina find, and what was each one noticing?
 2. A door opens when you walk up to it. What do you think it noticed?
 3. Your body has sensors too. Which one tells you the bath is too hot?
 4. What would go wrong if a smoke alarm could not hear or smell anything?
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CLASSROOM ACTIVITY

Sensor Hunt

25 minutes · Clipboards, the school building

1. Walk a set route through the school in pairs.
 2. Tally every sensor found: automatic taps, lights, doors, alarms, cameras.
 3. For each, write what it senses and what it makes happen.
 4. Back in class, build one list on the board. Which sensor appeared most?
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WHERE THIS LEADS

Electronics engineer · Building systems technician
· Robotics engineer

ON THE WEBSITE

Sensor Spy Mission — Observation and cause and effect

What Woke the House? — Working backwards from an effect to its cause

Yasmina Asks: Who Makes Technology?

Topic: Inventors · Ages 5 to 10

Technology is made by people, including people who look like the children in the room.

LEARNING OBJECTIVES

By the end, a child can:

- Name two inventors and what they made
- Explain that inventing usually takes many tries
- Describe a problem worth solving in their own neighbourhood

CURRICULUM STRANDS

- History: significant individuals
- Digital literacy: who builds technology

VOCABULARY

inventor

A person who makes something new.

prototype

A first try at building something, made to be improved.

persevere

To keep going when it is hard.

DISCUSSION PROMPTS

In order: recall, then reason, then reach.

1. Which inventor in the book surprised you most, and why?
2. Most inventions fail many times first. Why do you think inventors keep going?
3. Who decides what gets invented? What might get invented if children decided?
4. What problem in your street or school would you invent something for?

CLASSROOM ACTIVITY

Patent Office

40 minutes · Paper, colouring pencils, a stamp or sticker

1. Each child invents something to solve one problem from their own day.
2. They draw it labelled, with each part named and its job written beside it.
3. They write one sentence: who it helps and how.
4. The teacher stamps each one and they go on the wall as the class patent office.

WHERE THIS LEADS

Inventor · Research scientist · Patent attorney

ON THE WEBSITE

Inventor Timeline — Sequencing and historical reasoning

What Problem Did It Solve? — Seeing an invention as an answer to a difficulty

Yasmina and the Data Garden

Topic: Data · Ages 5 to 10

Data is information, and it is only useful once it is sorted so you can find things in it.

LEARNING OBJECTIVES

By the end, a child can:

- Sort a set of items by more than one attribute
 - Explain why sorting makes finding faster
 - Collect a small set of real data and record it
-

CURRICULUM STRANDS

- Computing: data and information
 - Mathematics: sorting, tallying, simple charts
-

VOCABULARY

data

Facts you collect, like numbers, words or pictures.

sort

To put things in groups or in order.

pattern

Something that repeats, so you can guess what comes next.

DISCUSSION PROMPTS

In order: recall, then reason, then reach.

1. Why did the data garden need rows? What happens to a garden with no rows?
 2. How is a library like a data garden?
 3. If you wanted to know the most popular lunch, what data would you collect?
 4. Could two people sort the same box of buttons differently and both be right?
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CLASSROOM ACTIVITY

Class Data Garden

35 minutes · Sticky notes, a large sheet of paper

1. Each child writes one favourite on a sticky note: fruit, animal, colour.
 2. As a class, decide the rows before looking at the notes.
 3. Place every note in a row. Count each row and write the total.
 4. Ask: what does this tell us that the pile of notes did not?
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WHERE THIS LEADS

Data analyst · Librarian · Scientist

ON THE WEBSITE

Data Garden Grow — Categorising data by type
The Odd One Out — Inferring a rule from examples, then applying it

Yasmina and the Cloud Castle

Topic: Cloud Computing · Ages 5 to 10

The cloud is not in the sky. It is other people's computers, somewhere else, that you reach down a wire.

LEARNING OBJECTIVES

By the end, a child can:

- Explain that cloud storage means a computer in another building
- Give one advantage and one risk of keeping things somewhere else
- Organise files into sensible folders

CURRICULUM STRANDS

- Computing: networks and storage
- Digital literacy: keeping your work safe

VOCABULARY

the cloud

Computers in another place that keep your things for you.

server

A computer whose job is to hold things and send them when asked.

backup

A second copy, in case the first is lost.

DISCUSSION PROMPTS

In order: recall, then reason, then reach.

1. Where is the cloud castle really? Is anything actually in the sky?
2. What is good about keeping your drawing somewhere else? What is worrying?
3. What happens to your photos if the only copy is on a phone that breaks?
4. Who else can see something you put in the cloud? How would you find out?

CLASSROOM ACTIVITY

Paper Cloud

30 minutes · Envelopes, paper, a box at the far side of the room

1. Each child draws a picture and writes their name on it.
2. They put it in an envelope and label the outside with what is inside.
3. A volunteer carries the envelopes to the box across the room: the server.
4. Now ask for a specific picture back. Discuss: what made it quick or slow to find?

WHERE THIS LEADS

Cloud engineer · Data centre technician · Systems administrator

ON THE WEBSITE

Cloud Castle Builder — Organising and storing information

Pack the Cloud — Judging what is worth storing, and what is already safe elsewhere

Yasmina and the Cyber Forest

Topic: Cybersecurity · Ages 5 to 10

Staying safe online is mostly noticing when something is trying to rush you.

LEARNING OBJECTIVES

By the end, a child can:

- Identify three signs a message may be a trick
- Explain why a password should be long
- Say who they would tell if something online worried them

CURRICULUM STRANDS

- Digital literacy: online safety
- PSHE: recognising pressure and asking for help

VOCABULARY

password

A secret that proves it is really you.

trick message

A message pretending to be someone it is not.

private

Something only you and your grown-ups should know.

DISCUSSION PROMPTS

In order: recall, then reason, then reach.

1. What made the messages in the cyber forest suspicious?
2. Why do trick messages nearly always say HURRY or NOW?
3. Which is the stronger password, and why: a short strange word, or a silly sentence?
4. If a message online made you feel worried, who would you tell first?

CLASSROOM ACTIVITY

Spot the Trick

30 minutes · The printed message cards from this pack, scissors

1. Cut out the eight message cards and spread them face up on each table.
2. In pairs, sort them into TRUST and DO NOT TRUST.
3. For each DO NOT TRUST, circle the exact words that gave it away.
4. Compare tables. Where did groups disagree, and who convinced whom?

WHERE THIS LEADS

Cybersecurity analyst · Police digital investigator · Software engineer

ON THE WEBSITE

Cyber Shield Defense — Spotting deception and judging trust

Safe or a Trick? — Recognising urgency, prizes and secret-asking as the marks of a trick

Yasmina and the Coding Puzzle

Topic: Coding · Ages 5 to 10

Code is a list of instructions, in order, precise enough that a machine cannot misunderstand.

LEARNING OBJECTIVES

By the end, a child can:

- Write a sequence of instructions that another person can follow exactly
- Find and fix a mistake in a sequence
- Explain what a loop saves you

CURRICULUM STRANDS

- Computing: algorithms, sequence, debugging
- Mathematics: direction and position

VOCABULARY

algorithm

A list of steps to get something done.

bug

A mistake in the steps.

loop

Doing the same step again without writing it again.

DISCUSSION PROMPTS

In order: recall, then reason, then reach.

1. Why did the first set of instructions not work?
2. A robot does exactly what you say. Why can that be a problem?
3. How would you tell someone to make toast, if they had never seen toast?
4. Where could you use a loop in your morning?

CLASSROOM ACTIVITY

Robot Teacher

30 minutes · Chalk or tape for a floor grid, paper arrows

1. Tape a grid on the floor. Put an object on one square.
2. One child is the robot and does only what the arrows say, nothing more.
3. The others write an arrow sequence to walk the robot to the object.
4. When it goes wrong, do not start again. Find the one wrong arrow and fix it.

WHERE THIS LEADS

Software developer · Games programmer ·
Robotics engineer

ON THE WEBSITE

Code Runner — Sequencing instructions, the first idea in programming

Find the Broken Step — Debugging: reading what was written rather than what was meant

Yasmina Asks: What is AI?

Topic: AI · Ages 5 to 10

AI is a machine that finds patterns in examples, which is why it is confident and sometimes wrong.

LEARNING OBJECTIVES

By the end, a child can:

- Tell apart a machine following a rule and a machine making a guess
- Explain that AI learns from examples people gave it
- Say why an AI answer should be checked

CURRICULUM STRANDS

- Computing: artificial intelligence
- Critical thinking: evidence and judgement

VOCABULARY

artificial intelligence

A machine that learns patterns from lots of examples.

training

Showing a machine many examples so it can spot a pattern.

mistake

Getting it wrong. AI does this too, and sounds sure anyway.

DISCUSSION PROMPTS

In order: recall, then reason, then reach.

1. What is the difference between a calculator and an AI?
2. If you only ever showed a machine pictures of ginger cats, what would it think a cat is?
3. AI can sound very certain and still be wrong. How would you check?
4. What should a person decide, and never a machine?

CLASSROOM ACTIVITY

Train the Class Robot

35 minutes · Twenty pictures of two categories, for example dogs and mops

1. Show the class ten pictures, saying the category each time. That is training.
2. Now show the tricky ones: a mop that looks like a dog. Vote as a class.
3. Count how many the class got wrong and discuss why those were hard.
4. Ask: what pictures would we have needed to see to do better?

WHERE THIS LEADS

Machine learning engineer · Data scientist · AI ethicist

ON THE WEBSITE

Is It AI? — Telling a rule from a judgement
Teach the Machine — How training examples decide what a machine gets wrong

Yasmina's AI School

Topic: AI in Education · Ages 5 to 10

A tool helps a particular person with a particular difficulty; the skill is matching them.

LEARNING OBJECTIVES

By the end, a child can:

- Match a described need to an appropriate tool
 - Explain that different children need different help
 - Name one thing a teacher does that a machine should not
-

CURRICULUM STRANDS

- Digital literacy: choosing tools
 - PSHE: difference and fairness
-

VOCABULARY

accessible

Made so everyone can use it.

translate

To say the same thing in another language.

practice

Doing something again to get better at it.

DISCUSSION PROMPTS

In order: recall, then reason, then reach.

1. Which helper in Yasmina's classroom would help you most, and why?
 2. Is it fair if two children get different help? Why or why not?
 3. What can Mrs. Miriam do that a computer cannot?
 4. If a machine marked your work wrongly, what would you want to happen?
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CLASSROOM ACTIVITY

Tool for the Job

25 minutes · The printed need-cards and tool-cards from this pack

1. Deal the need-cards, each describing a pupil and a difficulty.
 2. In groups, choose the tool-card that helps most and say why in one sentence.
 3. Swap need-cards and do it again with a different pupil.
 4. Discuss any need where the group thought no tool was the right answer.
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WHERE THIS LEADS

Educational technologist · Teacher · Accessibility designer

ON THE WEBSITE

AI Teacher's Helper — Matching a tool to a need
Ask a Better Question — Saying who it is for, how long, and what it is for

Yasmina and the Smart Hospital

Topic: Healthcare · Ages 5 to 10

In a hospital, technology helps people look after people; it does not replace them.

LEARNING OBJECTIVES

By the end, a child can:

- Name three ways technology helps in healthcare
- Explain why a doctor still decides
- Describe what a scan shows that eyes cannot

CURRICULUM STRANDS

- Science: the human body
- Digital literacy: technology in society

VOCABULARY

scan

A way of taking a picture of the inside of you.

monitor

A machine that keeps watching and tells someone if it changes.

diagnosis

Working out what is wrong.

DISCUSSION PROMPTS

In order: recall, then reason, then reach.

1. Which machine in the smart hospital would you most want to know about?
2. A monitor beeps all night. Who should it wake, and why not everyone?
3. Why does a doctor still make the decision, if the machine has the numbers?
4. What would make a hospital less frightening for a child?

CLASSROOM ACTIVITY

Design the Kindest Waiting Room

35 minutes · Large paper, colouring pencils

1. In groups, design a hospital waiting room for children.
2. They must include two pieces of technology and say what each does.
3. They must include one thing that is not technology at all, and say why it matters.
4. Each group presents. Which idea would the class most want if they were ill?

WHERE THIS LEADS

Biomedical engineer · Radiographer · Nurse · Doctor

ON THE WEBSITE

Doctor's Digital Toolkit — Diagnosis and matching evidence to action

Read the Monitor — Reading data against a normal range, and staying calm

Yasmina in Space

Topic: Space Tech · Ages 5 to 10

Satellites do not hover. They fall around the Earth, going sideways fast enough to keep missing it.

LEARNING OBJECTIVES

By the end, a child can:

- Explain in their own words why a satellite stays up
- Name two jobs satellites do for people on the ground
- Adjust one variable and predict the effect

CURRICULUM STRANDS

- Science: forces, Earth and space
- Computing: communication over distance

VOCABULARY

orbit

Going round and round something without falling into it.

gravity

The pull that brings everything back down.

signal

A message sent as invisible waves.

DISCUSSION PROMPTS

In order: recall, then reason, then reach.

1. Why does a satellite not fall down? What is actually happening?
2. Which things you used today needed a satellite without you noticing?
3. What would stop working tomorrow if every satellite switched off?
4. Is space a good place to put rubbish? What happens to old satellites?

CLASSROOM ACTIVITY

Orbit on a String

20 minutes · A ball in a sock, a clear space outdoors or in the hall

1. Swing the ball in the sock in a circle. The hand is gravity, pulling inward.
2. Ask what happens if you let go, and then let go and watch.
3. Swing slowly, then fast. What changes about the circle?
4. Draw the three cases: too slow falls in, too fast flies off, just right orbits.

WHERE THIS LEADS

Aerospace engineer · Astronomer · Satellite operator

ON THE WEBSITE

Launch the Satellite! — Estimating, then correcting from the result

Pack the Rocket — Choosing between two good things under a hard limit

Yasmina Explores the Digital Farm

Topic: AgriTech · Ages 5 to 10

A farm with sensors uses less water and less guessing, and a farmer still decides.

LEARNING OBJECTIVES

By the end, a child can:

- Explain how measuring can save something
 - Read a simple set of readings and say what to do
 - Give an example of old knowledge and new technology working together
-

CURRICULUM STRANDS

- Science: plants and their needs
 - Computing: data collection and decisions
-

VOCABULARY

moisture

How wet something is.

harvest

When the food is ready and gets collected.

efficient

Getting the job done without wasting anything.

DISCUSSION PROMPTS

In order: recall, then reason, then reach.

1. How did the smart garden help Grandma Cherie, and what did she already know?
 2. What could go wrong if the farmer only ever believed the sensors?
 3. Why does using less water matter, even where it rains a lot?
 4. Whose knowledge would you trust about your own garden, and why?
-

CLASSROOM ACTIVITY

Two Plants, One Week

15 minutes · Two identical potted plants, a ruler, a chart

1. Water one plant on a fixed schedule; water the other only when the soil feels dry.
 2. Measure and record both every day for a week.
 3. Plot both sets of readings on one chart.
 4. Which used less water? Which plant looks better? Were they the same one?
-

WHERE THIS LEADS

Agricultural engineer · Environmental scientist · Farmer

ON THE WEBSITE

Grandma Cherie's Smart Garden — Reading data and acting on it

Water Wisely — Reading two measurements together before acting

Yasmina and the Talking House

Topic: Smart Home · Ages 5 to 10

A smart home is a set of small machines agreeing on rules, and someone has to write the rules.

LEARNING OBJECTIVES

By the end, a child can:

- Write a simple if-then rule for a home device
 - Explain one convenience and one worry about a listening device
 - Plan where devices should go and justify it
-

CURRICULUM STRANDS

- Computing: systems and control, if-then logic
 - Digital literacy: privacy at home
-

VOCABULARY

smart device

A machine that can be told what to do and can tell others.

rule

If this happens, then do that.

privacy

Keeping some things just for you and your family.

DISCUSSION PROMPTS

In order: recall, then reason, then reach.

1. Which room in the talking house would you make smart first, and why?
 2. A speaker that listens for its name is always listening a little. How do you feel about that?
 3. Write a rule for the hallway light. What should happen at 3 in the morning?
 4. What in your home should never be automatic?
-

CLASSROOM ACTIVITY

Write the House Rules

30 minutes · Printed floor plan from this pack, pencils

1. In pairs, place five devices on the floor plan and label them.
 2. Write one if-then rule for each: if the door opens after dark, then the hall light comes on.
 3. Swap plans with another pair, who must find one rule that would annoy someone.
 4. Fix the annoying rule together.
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WHERE THIS LEADS

Systems engineer · Electrician · User experience designer

ON THE WEBSITE

Set Up the Smart House — Planning a system from parts

Say It Clearly — Removing ambiguity from an instruction

How to Talk to AI

The Prompt Engineer's Handbook for Kids

Topic: Prompt Engineering · Ages 7 to 12

Asking a machine well is a skill: be specific, say who it is for, and check what comes back.

LEARNING OBJECTIVES

By the end, a child can:

- Improve a vague request into a specific one
 - Explain why context makes an answer better
 - Check an answer instead of accepting it
-

CURRICULUM STRANDS

- Digital literacy: working with AI
 - English: precision in instruction writing
-

VOCABULARY

prompt

What you ask the machine to do.

specific

Saying exactly what you mean, with no guessing left.

check

Looking to see whether an answer is actually right.

DISCUSSION PROMPTS

In order: recall, then reason, then reach.

1. Why does "write a story" give a worse result than "write a funny story about a lost cat, for my little sister"?
 2. What does the machine not know about you unless you tell it?
 3. If the answer is wrong but sounds confident, how would you find out?
 4. When should you not ask a machine at all, and ask a person?
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CLASSROOM ACTIVITY

Prompt Surgery

30 minutes · The printed vague-prompt cards from this pack

1. Each pair gets a vague prompt, for example "tell me about dogs".
 2. They rewrite it three times, each more specific than the last.
 3. They underline what they added: who it is for, how long, what kind.
 4. Read the first and last aloud. The class says which they would rather receive.
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WHERE THIS LEADS

Prompt engineer · Technical writer · AI product designer

ON THE WEBSITE

Prompt Lab — Asking a machine for what you actually want

Better or Worse? — Judging a prompt on what it gives the machine, not its length