PLANTS AND SEEDS

Activity Pack -- FREE Resource

Ages 6-10 | No Prior Reading Required
Classroom, Library and Home Use

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Inside a Seed

If you soak a broad bean overnight and gently split it open, you can see inside a seed. Every seed has three parts -- and to wake up, it needs water, warmth and air.

Activity 1: Match the Part to Its Job

Write the letter of the right job next to each part.

Seed Part	Letter	Jobs
Embryo	____	A. A tough jacket that keeps the seed safe
Food store	____	B. A tiny new plant, curled up and waiting
Seed coat	____	C. A packed lunch for the baby plant

Activity 2: Will It Sprout?

Bean seeds are put on cotton wool in four cups. Predict: will each one sprout?

Cup	Yes	No	Why?
A: damp, on a warm window sill	[ ]	[ ]	
B: DRY, on a warm window sill	[ ]	[ ]	
C: damp, in the fridge	[ ]	[ ]	
D: damp, in a dark cupboard	[ ]	[ ]	

Think About It

* Most seeds don't need light to sprout. Why not?

* What will a seedling need once its packed lunch runs out?

Seed Counting and Fractions

About a hundred years ago, farmers grew far more kinds of crops than they do today. Since then, **three out of every four** kinds have disappeared.

Activity 1: Three Out of Four

Here are 4 kinds of potato. Cross out 3 of them. How many are left?

Kind 1	Kind 2	Kind 3	Kind 4

Kinds left: _____ out of 4. As a fraction: _____

Activity 2: Seed Problems

1. A bundle has 20 beans. You plant 3. How many are left? _____

2. You plant 3 old-family beans and 3 shop beans. How many pots? _____

3. A farm grew 8 kinds of bean. 3 out of every 4 kinds disappeared. How many kinds are left? _____

4. A seed vault keeps more than a million kinds of seed. Write one million in numbers: _____

Think About It

* Why is 'three out of four' such a worrying number?

* What fraction of your lunchbox is fruit or vegetables?

Design a Seed Library

A seed library keeps seeds safe so they can be grown again. Each kind goes into its own bag, kept dry, with a record page: where it came from, what it looks like and when it was collected.

Activity 1: What Does a Seed Library Need?

Tick what a seed library needs. Cross what it does not need.

Seed Library Part	Needs it	Doesn't need it
A separate bag for each kind of seed	[ ]	[ ]
Something to keep the seeds dry	[ ]	[ ]
A label saying where the seeds came from	[ ]	[ ]
A warm, wet place to store them	[ ]	[ ]
The date the seeds were collected	[ ]	[ ]

Activity 2: My Seed Record Card

DRAW THE SEED OR PLANT:

Seed name: _____ Where it came from: _____

What it looks like: _____ Date collected: _____

Think About It

* Why do seeds need to be kept dry in a seed library?

* Which seed would you most like to save for the future? Why?

Waiting and Growing

Note to students:
This worksheet explores personal feelings. There are no right or wrong answers -- your thoughts are your own. Sharing is always optional. If any question brings up big feelings, please talk with a trusted adult.

Some things take time. When you plant a seed, you might check it every day and see nothing for days. Seeds are patient -- and we can learn to be patient too.

Activity 1: Feeling Check-In

Circle the words that show how you feel.

When I have to wait for something, I feel:
Bored Excited Grumpy Calm Other: _____

When something I look after grows, I feel:
Proud Happy Amazed Excited Other: _____

When something special is lost, I feel:
Sad Upset Quiet Okay Other: _____

Activity 2: Worth the Wait

DRAW SOMETHING THAT TOOK A LONG TIME BUT WAS WORTH THE WAIT:

What helped me wait: _____

Think About It

* What can you do to help yourself be patient?

* Why do you think good things sometimes take a long time?

Every Kind Matters

Plants of the same kind can still be a little different. That's called variety, or **diversity**. Variety protects crops -- when plants are different, some can survive a disease.

Activity 1: Agree or Disagree?

Statement	Agree	Disagree
If every plant is the same, one disease could harm them all	[ ]	[ ]
Lots of different kinds of plants help protect our food	[ ]	[ ]
Old seeds don't matter if the shops sell new ones	[ ]	[ ]
Sharing seeds helps keep them alive	[ ]	[ ]
Once nobody grows a seed, it can be gone forever	[ ]	[ ]

Activity 2: Something Worth Keeping

Is there something in your family or community worth keeping safe for the future?

It is: _____

It matters because: _____

I could help keep it safe by: _____

Think About It

* Why does it matter that crops come in lots of different kinds?

* Why might someone keep seeds safe for many years?

My Seed Saver Goals

Every saved seed is a promise kept. Here is a challenge: grow something, wait patiently, and find out what is worth keeping in your family or community.

Activity 1: My Seed Saver Goals

Write or draw one goal for each time.

Goal Tier	My Goal	How I Will Do It	When I Will Start
THIS WEEK			
THIS TERM			
THIS YEAR			

Activity 2: Seed Saver Tracker

Colour a star each day you do it.

I did it!	Mon	Tue	Wed	Thu	Fri
I checked on and cared for a plant	*	*	*	*	*
I waited patiently for something	*	*	*	*	*
I learned where something in my family came from	*	*	*	*	*
I saved or shared some seeds	*	*	*	*	*
I tried the seed experiment	*	*	*	*	*

Think About It

* Is there something in your family worth keeping safe for the future?

* Who do you think should own a seed -- and why?

Teacher's Companion

No Prior Reading Required
This pack is fully standalone. No book or characters are referenced. Any student can complete these worksheets without prior reading. Suitable for classroom, library, and home learning programmes. This pack is an excerpt of a full book-specific learning pack available with purchase at **learningsmart.au**

Australian Curriculum Alignment

Learning Area	Strand	Year Level	Content Description (summary)
Science	Biological Sciences	Yr 1-4	Living things grow and change; plants have life cycles and basic needs (WS1)
Science	Science Inquiry	Yr 1-4	Predict and plan a fair test of what seeds need (WS1)
Mathematics	Number	Yr 1-4	Recognise simple fractions; add, subtract and read large numbers (WS2)
Design and Technologies	Food and Fibre	Yr 1-4	How plants are grown and kept for food; design a storage system (WS3)
Health and PE	Personal, Social and Community Health	Yr 1-4	Describe feelings about waiting and loss (WS4)
Gen. Capabilities	Ethical Understanding	Yr 1-4	Value diversity and caring for shared resources (WS5)
Gen. Capabilities	Critical and Creative Thinking	Yr 1-4	Predict outcomes and evaluate ideas (WS1, WS5)

16 Key Plants and Seeds Lessons

#	Lesson
1	Every seed has three parts: embryo, food store and seed coat.
2	The embryo is a tiny new plant, curled up and waiting.
3	The food store is a packed lunch for the baby plant.
4	To sprout, a seed needs water, warmth and air.
5	Most seeds don't need light to sprout -- they carry their own food.
6	Seeds are patient -- they can wait a long time to grow.
7	When the food store runs out, leaves take over.
8	Photosynthesis: leaves use sunlight to turn air and water into food.
9	Plants breathe out oxygen -- every breath we take is helped by a plant.
10	Plants of the same kind can still be different: that's variety.
11	Three out of four kinds of crops grown 100 years ago have disappeared.
12	Once nobody grows a seed, it can be gone forever.
13	Variety protects crops, because some plants can survive a disease.
14	Seed vaults and seed libraries keep seeds safe for the future.
15	Saving and sharing seeds keeps them alive.
16	Big question: Who should own a seed?

Answer Keys and Discussion Guidance

WS1 -- Inside a Seed (Answers)
Embryo = B; food store = C; seed coat = A. Sprout: A yes (water, warmth, air); B no (no water); C unlikely or very slow (too cold); D yes (light isn't needed to sprout).

WS2 -- Seed Counting (Answers)
Activity 1: 1 kind left, 1 out of 4 (one quarter). Activity 2: 1. 17; 2. 6 pots; 3. 2 kinds; 4. 1,000,000.

WS3 -- Seed Library (Answers)
Needs: a separate bag for each kind; something to keep seeds dry; a label for where they came from; the date collected. Doesn't need: a warm, wet place (seeds would rot or sprout).

WS4 -- Sensitivity Note for Educators
The book mentions a historical famine and seeds lost in war. Some students may have family experience of conflict, migration or loss. Do NOT require sharing. If a student discloses a concern, follow your school's wellbeing and child safety protocol.

WS5 -- Agree or Disagree? (Answers)
Agree: one disease could harm identical plants; different kinds protect food; sharing keeps seeds alive; unplanted seeds can be lost forever. Disagree: old seeds don't matter.

WS6 -- Challenge Tracker
There are no correct scores. Celebrate every attempt; any day left blank is a chance for a gentle reminder, not correction.

Upsell Note for Educators
This generic pack is based on the Learning Smart book series. The full book-specific learning pack -- which references the characters, story moments, and adventure narrative -- is available with book purchase or subscription at **learningsmart.au**. Book-specific packs significantly increase student engagement and reading motivation.

Differentiation Strategies

Level	Strategy	Example Application
Below Level (support)	Reduce written output; use sentence starters; allow verbal responses; pair with peer.	WS2: use real beans or counters for the problems. WS4: use feeling faces instead of writing.
On Level (standard)	Complete all activities as written. Use discussion partner for Think About It sections.	Standard completion with class debrief of Think About It questions.
Extension (enrichment)	Run the four-cup sprouting test for five days and record the results in a table with drawings.	WS3: start a real class seed library and research the seed vault in Norway.

7 Discussion Questions

1. What are the three parts of a seed, and what does each one do?
2. What is photosynthesis? What would happen if plants couldn't do it?
3. Why does it matter that crops come in lots of different kinds?
4. Why might a family keep seeds for many years?
5. Is there something in your family worth keeping safe for the future?
6. Who should own a seed -- the company that improves it, the farmer who grows it, or everyone?
7. Why does Australia check seeds so carefully at the border?

Classroom Display Ideas

Inside a Seed: A large labelled drawing of a split broad bean: embryo, food store, seed coat.

Sprouting Test: The four cups from WS1 with daily observation notes.

Class Seed Library: Labelled seed packets with record cards from WS3.

Three Out of Four: A fraction display showing the crop kinds lost and kept.

Family Treasures: Students share something worth keeping safe (drawings or words, optional).

Bean Diary: Weekly photos of a class bean plant as it grows.

Want the Full Adventure?

This free activity pack is inspired by the **Learning Smart book series** -- everyday adventures about character, confidence and growing into a kind, capable leader.

The Full Book-Specific Learning Pack Includes:

* Worksheets tied directly to the book's characters and story moments
* Story-based Think About It questions that deepen reading comprehension
* A Teacher's Companion with book-specific discussion questions
* Access to the full Learning Smart resource library

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