Same Steps, Different Life Stories

Teacher		**Class**	Grade 3
Subject	Science	**Topic**	Life cycles
Date		**Room**	
Lesson length	60 minutes	**Country**	United States

Students learn all life cycles share birth, growth, reproduction, and death. They build circle models to compare a butterfly and flowering plant.

Curriculum links

- Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.

Learning objectives

- Students will build circle models showing birth, growth, reproduction, and death for two different organisms.
- Students will compare life cycles to explain shared steps with different details.

Success criteria

- I can label birth, growth, reproduction, and death on my models.
- I can give one way two life cycles start or grow differently.
- I can order a life cycle so it can start again.

What students already know

Ask: What does a seed need to start growing? What does a baby animal do as it gets older? Listen for grow bigger and change.

Key words

life cycle	steps a living thing goes through from start to end
birth	starting life, such as hatching from an egg or sprouting from a seed [4]
growth	getting bigger and changing over time
reproduction	making new young like itself, such as developing seeds or laying eggs that hatch [4]
death	the end of a normal life span, and length of life can differ [4]

Materials

- picture cards of a butterfly, a frog, a flowering plant
- 4-stage circle mats
- glue
- pencils and crayons
- Slides 1-8, 10-11, projector and speakers
- Worksheet Task B and Task E, one copy per student

Before the lesson

- Print picture cards of butterfly, frog, flowering plant and 4-stage circle mats, one set per pair, plus pre-labeled mats for support
- Print Worksheet Task B and Task E, one per student
- Test Video clip 1 (0:00–1:51) on slide 5 and Video clip 4 (0:00–5:00) on slide 7 for sound and picture
- Set desks for pairs with glue sticks and crayons and clear floor space for voting

Lesson outline

0–5 min **Starter** 5 min · Whole class

Hook curiosity and recall that living things grow and change.

YOU DO

1. Show Slide 1 and read the question: How do living things grow, change, and begin again?
2. Say the hook and show picture cards of seed, tadpole, and caterpillar.
3. Show Slide 4 and take a quick vote on which change wows you most.
4. Show Slide 2 and read the three key words together.

STUDENTS DO

1. Look at the three picture cards and vote for Caterpillar to butterfly, Tadpole to frog, Seed to flowering plant, or Baby to grown-up.
2. Repeat the key words life cycle, growth, and reproduction and tell a neighbor one living thing that grows.

Say: A seed, a tadpole, and a caterpillar look nothing alike. Can they have the same life story? Vote with your hand, then we will learn the four steps every life cycle shares.

Ask: What do all living things do as they get older? (They are born, grow bigger and change, have young of their own, and in the end all die while the cycle keeps going [7].) · Do babies always look like the grown-ups? (No, some just become bigger versions of the baby, while others change completely as adults [6].)

Check understanding: Hands-up vote count and thumbs up for key words; reteach any word with a quick example if thumbs are down.

Support: Let students echo your sentence: A seed grows, a tadpole grows, a caterpillar grows. **Stretch:** Ask voters to give one reason their pick looks most amazing.

Use: Slides 1–2, 4

5–15 min **Teaching** 10 min · Whole class

Teach the four shared steps and how births and growth can look different.

YOU DO

1. Show Slide 3 and point to butterfly and frog young and adult photos.
2. Teach the four shared steps: birth, growth, reproduction, and death in common [4].
3. Show Slide 6 and explain births can look very different but every animal is born or hatches.
4. Model how to spot birth and growth in the two examples.

STUDENTS DO

1. Point to birth and growth on Slide 3 photos with you.
2. Turn and tell a partner which birth looks more different: tiny egg on a leaf or jelly egg in water.

Say: Every life cycle has the same four steps: birth, growth, reproduction, and death [4]. Birth can be sprouting from a seed or hatching from an egg [4]. Growth can be getting bigger or making a new part [4].

Worked example: Frog example, step by step: 1. Birth - starts as a jelly egg in water, then hatches to a swimming tadpole. 2. Growth - tadpole grows back legs then front legs while its tail shrinks [13]. 3. Reproduction - adult frog mates and lays eggs that hatch [4]. 4. Death - end of life, and length of life differs [4]. Same four steps, different story.

Ask: What are the four steps every life cycle shares? (Birth, growth, reproduction, and death [4].) · How can birth look different? (Some sprout from a seed and some are born from an egg [4]; one ostrich egg equals about 24 chicken eggs [6].) · How can growth look different? (Some increase in size and weight and some produce a new part like new leaves or legs [4].)

Check understanding: All hold up 4 fingers and name the four steps in order; correct together if order or names are off.

Support: Keep a four-word strip on the board: birth, growth, reproduction, death for students to point to.
Stretch: Ask which animal so far grows bigger and which changes form completely.

Use: Slides 3, 6

15–30 min **Video Focus** 15 min · Whole class

Show unique plant and animal cycles that share the same four steps.

YOU DO

1. Show Slide 5 and play Video clip 1 (0:00–1:51); tell students to spot birth, growth, reproduction, and death.
2. Pause and list one different start and one different way to grow they noticed.
3. Show Slide 7 and play Video clip 4 (0:00–5:00); tell students to watch seed sprout and find flower, fruit, and new seeds.
4. Compare plant and animal starts on the board.

STUDENTS DO

1. Watch both clips and whisper to a partner each time they see birth, growth, reproduction, or death.
2. After each clip, share one way a start or growth looked different from the frog.

Say: Spot birth, growth, reproduction, and death. Notice how the starts look very different. For plants, watch the seed sprout roots down and shoots up, then grow into a plant that makes flowers and new seeds.

Worked example: Flowering plant example in order: seed lands in soil and sprouts a root downward and a shoot upward, becoming a seedling [13]. Seedling grows into a mature plant with stems, leaves, and roots [13]. Plant makes flowers, then fruit with seeds [13]. Seeds scatter to start new plants, so birth leads back to new birth.

Ask: How does a flowering plant begin and grow? (It sprouts from a seed [4], grows root down and shoot up into a seedling, then stems, leaves, and roots [13].) · How does a plant reproduce? (It develops seeds in flowers and fruit, and those seeds scatter to make new plants [4][13].)

Check understanding: Quick show of hands for one birth example and one reproduction example from the videos; replay 20 seconds if students miss seeds or eggs.

Support: Give a four-box tracker with pictures for birth, growth, reproduction, death to tick during videos.
Stretch: Ask why comparing general stages is more useful than tiny details [4].

Use: Slides 5, 7, Video clip 1 (0:00–1:51), Video clip 4 (0:00–5:00)

30–50 min **Main Activity** 20 min · Pairs

Build circle models that prove different life cycles share the same four steps.

YOU DO

1. Show Slide 8 and explain the task: pick butterfly and flowering plant, draw a circle with 4 steps in order.
2. Hand out 4-stage circle mats, picture cards of butterfly and flowering plant, and glue.
3. Model one circle for butterfly, placing egg, caterpillar, chrysalis, adult in order.
4. Circulate, check labels birth, growth, reproduction, death, and have pairs tell one difference.

STUDENTS DO

1. In pairs, build two circle models for butterfly and flowering plant, gluing cards in order and labeling birth, growth, reproduction, death.
2. Complete Worksheet Task E by drawing each stage in order to show how birth leads back to new birth.
3. Point to each part of the circles and tell a partner one way the two organisms start or grow differently [4].

Say: Build two circle models. Each model shows birth, growth, reproduction, and death in common [4]. Match your cards, glue them in order, label the four steps, and be ready to point and tell how two starts are different.

Worked example: Butterfly circle, step by step: Birth - egg on leaf. Growth - caterpillar hatches, eats leaves and molts bigger, caterpillar that rebuilds inside a chrysalis into a butterfly [13]. Next - pupa still inside chrysalis. Reproduction and restart - adult butterfly lays eggs [13]. Label panels birth, growth, reproduction, death [4] and draw an arrow back to egg to show the cycle can restart. Butterfly has four stages of egg, caterpillar, chrysalis, and adult [10].

Ask: Where does your circle restart? (With new birth, new eggs that hatch or new seeds that sprout [4].) · How do your butterfly and plant grow differently? (Caterpillar eats leaves, grows bigger and molts, then rebuilds inside a chrysalis [13] while plant increases in size and produces new leaves, stems, and roots [4][13].)

Check understanding: Pairs hold up circles and read steps in order; fix order or labels on the spot if a step is out of place.

Support: Give pre-labeled mats with the four stage words and matching color dots for each card. **Stretch:** Write one sentence comparing how two organisms reproduce in different ways, such as developing seeds versus laying eggs that hatch [4].

Use: Slide 8, Worksheet Task E

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50–60 min **Plenary** 10 min · Whole class

Check that unique cycles share birth, growth, reproduction, and death.

YOU DO

1. Show Slide 10 and lead think, pair, share: If all share the same 4 steps, why do they look so different?
2. Show Slide 11 and read each true or false line together for life cycles, plants and animals, and metamorphosis.
3. Have students finish the last column of Worksheet Task B about what they modeled.
4. Sum up same four steps with different details.

STUDENTS DO

1. Think, then tell a partner one same and one different, using: They are the same because...
2. Vote true or false on Slide 11 and complete Worksheet Task B last column.

Say: All life cycles share birth, growth, reproduction, and death [4]. They look different because starts, bodies, and ways to make young differ. Metamorphosis is a series of physical changes to adult form [8].

Worked example: Think, pair, share model answer: They are the same because every living thing is born, grows, reproduces, and dies [4]. They look different because a caterpillar rebuilds in a chrysalis [13], a tadpole trades tail and gills for legs and lungs [13], and a young fish called a fry just gets larger and looks more like its parents [15].

Ask: If all share four steps, why do they look so different? (Because birth, growth, and reproduction happen in different ways, but all have birth, growth, reproduction, and death in common [4].) · Do plants and animals both have life cycles? (Yes, all living things have a life cycle, plants and animals all have one.)

Check understanding: Exit ticket on mini whiteboards with three questions; reteach any step that fewer than most get right tomorrow.

Support: Let students echo your example sentence before making their own. **Stretch:** Explain why comparing general stages is more useful than memorizing tiny details [4].

Use: Slides 10–11, Worksheet Task B

Common mistakes

Mistake	How to spot it	How to fix it
Thinking death ends the cycle so it cannot restart	Circle model has no arrow back or student says cycle stops	Show new birth from reproduction: new eggs that hatch or seeds that sprout start the next loop [4].
Thinking all babies look like small adults	Student labels caterpillar or tadpole as tiny adult	Contrast grow-bigger with change-form: some become bigger versions of the baby, others change completely [6] through metamorphosis, a series of physical changes [8].
Mixing up order of growth and reproduction	Adult egg-laying placed before growing bigger	Retrace in order: birth, then increase in size and weight [4], then develop seeds or mate and lay eggs [4], then death.

Support

- Give pre-labeled mats with the four stage words and matching color dots for each card.

Stretch

- Write one sentence comparing how two organisms reproduce in different ways.

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For the LSE or teaching assistant

Sit with pairs using pre-labeled mats; prompt pointing and naming birth, growth, reproduction, death and help order cards before gluing.

Check for understanding

Question	Answer
Name the four steps every life cycle shares.	Birth, growth, reproduction, and death.
Give one way birth can look different in two organisms.	One sprouts from a seed and one hatches from an egg.
Put this butterfly order right: adult, egg, chrysalis, caterpillar.	Egg, caterpillar, chrysalis, adult.

Sources

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