Dolphin Detectives Research Sprint

Teacher		**Class**	Grade 4
Subject	ELA	**Topic**	Short research projects
Date		**Room**	
Lesson length	60 minutes	**Country**	United States

Students learn how to run a short research project that builds knowledge. They investigate dolphins in pairs and make illustrated fact cards.

Curriculum links

- Conduct short research projects that build knowledge through investigation of different aspects of a topic [1]

Learning objectives

- Students will choose a focused research question that is just right.
- Students will gather facts about different aspects from two sources.
- Students will share findings in a clear fact card in own words.

Success criteria

- I can pick a just-right question I can answer in days.
- I can find and check facts from two different sources.
- I can share what I learned in my own words.

What students already know

Ask: What does research mean and where do you find answers? Listen for careful hunt for answers, books, sites.

Key words

research	careful hunt for answers to a question
investigation	digging for facts to learn more
source	book or site that gives facts
aspect	one small part of a bigger topic

Materials

- Slides 1-5 and 8-11, projector
- Video clip 2 Brainstorming topics (0:00-1:41) on Slide 5
- Simple books about animals and printed dolphin fact sheets Source 1 and Source 2
- Blank fact cards and colored pencils
- Worksheet Task A and Task E copies

Before the lesson

- Print Source 1 and Source 2 dolphin sheets for sleep, food, home and blank fact cards, one set per pair
- Print Worksheet Task A for starter teaching and Task E step tracker for main activity
- Test Slide 5 Video clip 2 (0:00-1:41) with sound and set desks for pairs with books and pencils

Lesson outline

0–8 min **Starter** 8 min · Whole class

Hook curiosity and review what makes a research question too big or just right.

YOU DO

1. Show Slide 1 Research Detectives: Build knowledge piece by piece and say the detective hook.
2. Show Slide 2 Key words and chant research, investigation, source, aspect with meanings.
3. Show Slide 3 Too Big or Just Right? and model thinking aloud for What is space? versus How do dolphins sleep?
4. Cold-call students to vote thumbs up for just-right and thumbs down for too big.

STUDENTS DO

1. Repeat key words and meanings with the class.
2. Hold thumbs up or down for sample questions and say why it is too big or just right.
3. Tell a partner which dolphin question sounds most fun to solve.

Say: Detectives never solve a case with one clue. Today you need three clues about one animal to crack your case. Research is our careful hunt for answers. We will pick a question that is not too big and not too tiny, but just right so we can finish fast.

Worked example: Too Big: What is space? Hard to finish fast and too many answers. Just Right: How do dolphins sleep? Can finish in days with a clear answer to share. I change from everything to one small part.

Ask: What is research in your own words? (A careful hunt for answers to a question.) · Why is What is space? too big for a short project? (Hard to finish fast, too many answers.)

Check understanding: Thumbs up or down for three quick questions; if split, reread Slide 3 boxes and repeat just-right test.

Support: Show picture cues for too big equals huge net and just right equals one fish. **Stretch:** Ask students to turn What is space? into one smaller part, like one planet or the moon.

Use: Slides 1-3

8–20 min **Teaching** 12 min · Whole class

Model how to pick a focused question and list aspects to investigate.

YOU DO

1. Show Slide 4 Pick to Investigate and take a class vote on Why is the sky blue? How do dolphins sleep? Can games help your brain?
2. Play Video clip 2 Brainstorming topics (0:00-1:41) on Slide 5 and pause to name what makes a topic too big.
3. Do Worksheet Task A together: Color each question box by its group and think broad or focused.
4. Model narrowing to dolphins and listing three aspects sleep, food, home to check [6].

STUDENTS DO

1. Vote for a question and tell why it can be finished in days.
2. Watch the video and answer What makes a topic too big and How does the student narrow it?
3. Complete Task A coloring broad or focused and share answers.

Say: A short research project is a focused, time-limited hunt where we gather and put together facts from more than one place [6]. A good question is specific enough to answer but big enough to explore [8]. We will study dolphins, then each pair will dig into one small part: sleep, food, or home.

Worked example: Broad start: Tell about dolphins. Too many answers. Fix it step by step: 1 Pick animal dolphins. 2 Pick one aspect sleep. 3 Make question: How do dolphins sleep? Now it can be finished in days [6] with a clear answer.

Ask: Which question is just right and why? (How do dolphins sleep? Clear, can finish in days, has a clear answer.) · What are different aspects of dolphins we could check? (Sleep, food, home; one small part each.) · How long does a short project take? (A few days to a few weeks, done alone or with a team [6].)

Check understanding: Check Task A colors on mini whiteboards; reteach broad versus focused with Slide 3 if many miss.

Support: Give two just-right options to pick and copy, then add one word of their own. **Stretch:** Have students split a just-right question into two different aspects to investigate later.

Use: Slides 4-5, Video clip 2 (0:00–1:41), Worksheet Task A

20–42 min **Main activity** 22 min · Pairs

Investigate one dolphin aspect using two sources and make an illustrated fact card.

YOU DO

1. Show Slide 8 Your task and assign sleep, food, or home so the class covers three aspects [1].
2. Model reading Source 1 book page and Source 2 printout, thinking aloud Who wrote this and Is it backed by evidence? [8].
3. Hand out blank fact cards and Task E Picture-supported steps tracker and set a 15-minute timer.
4. Circulate, prompt writing the fact in own words and ticking two sources used.

STUDENTS DO

1. Pick sleep, food, or home and read Source 1 and Source 2 with partner.
2. Follow Task E steps, tick each box, underline key facts and write one fact in own words on fact card.
3. Draw a picture for habitat, diet, or interesting feature like animal fact cards with three key pieces [6].

Say: With your partner, investigate one aspect of dolphin. Find one fact in two different sources. Write the fact in your own words. Use at least two or three different sources to see different angles and check facts [8]. Take notes on key facts that help answer your question [8].

Worked example: Aspect: food. Source 1 book page says fact about food. Source 2 printout says same fact about food. I check: both agree, so I trust it more. I write on card in my own words: Food box - one sentence. I tick Source 1 and Source 2 and draw a small picture.

Ask: Why must you use two sources, not one? (To check facts are correct and see different angles [8].) · How do you show the fact is yours? (Write it in my own words, not copying.)

Check understanding: Stop at 10 minutes, ask pairs to hold up cards showing two source ticks; help pairs stuck on finding the fact.

Support: Provide a card with sentence starters and two pre-marked facts to find and underline in the sources [6]. **Stretch:** Add a fourth fact that compares two sources and notes where they agreed.

Use: Slide 8, Worksheet Task E

42–50 min **Share** 8 min · Groups

Combine different aspects to build class knowledge of the topic.

YOU DO

1. Show Slide 9 Your Research Path Step 1 to Step 5 and point to Gather facts from 2-3 sources and Share.
2. Invite one sleep pair, one food pair, and one home pair to read their fact card in 60 seconds.
3. Chart three boxes for sleep, food, home so students see investigation of different aspects [1].
4. Ask what new question we could fix or ask next if facts did not match [8].

STUDENTS DO

1. Present fact card naming question, aspect, and one fact with evidence.
2. Listen and point to which box each fact builds: sleep, food, or home.
3. Suggest one follow-up question for a gap.

Say: Short projects end in products such as brief reports, presentations, posters, or cards that show learning [6]. Your three aspects together build our knowledge. If your question was too big or too small, good researchers fix it and keep going [8].

Ask: How did three pairs build more knowledge together? (Each investigated a different aspect of the same topic [1].) · What if you learn your question is not quite right? (Fix it to match what you find; that means you are learning [8].)

Check understanding: Ask all to point to the aspect box just shared; re-explain aspects if pointing is scattered.

Support: Let students read directly from sentence-starter card for the 60-second share. **Stretch:** Ask students to name a second source they would add to double-check the fact.

Use: Slide 9

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

Check understanding of short research steps and trustworthy sources.

YOU DO

1. Show Slide 10 Think, pair, share: You find great facts, but your question is too big. What do you do?
2. Show Slide 11 Quick quiz and ask What is a short research project and Why use 2 or 3 sources?
3. Model fair conclusion: based on facts, not feelings, fair and unbiased [11].
4. Give exit ticket on paper to collect.

STUDENTS DO

1. Think, pair, share a fix for a too-big question.
2. Answer quiz questions aloud and then on exit ticket.
3. Self-check success: just-right question, two sources, own words.

Say: Good research is organized, planned, and fair, like detectives solving with facts not guesses [11]. We start with what we know, collect in an organized way, then tell what results mean [11]. Tell your partner your fix for a too-big question, then answer the quiz.

Worked example: Too big: All about dolphins. Fix: How do dolphins sleep? Action: Narrow to one aspect, list 2-3 aspects to check, gather from 2-3 sources, share. Conclusion uses only facts found in both sources.

Ask: What do you do if your question is too big? (Narrow or fix it to one aspect.) · How do you know a source can be trusted? (Check who wrote it, when, and if evidence backs it up [8].)

Check understanding: Collect exit tickets; if many miss why use two sources, reteach check facts and see different sides tomorrow.

Support: Give word bank kind, part, cause, effect to swap into the fixed question. **Stretch:** Have students predict what sources they will need next for the revised question.

Use: Slides 10-11

Common mistakes

Mistake	How to spot it	How to fix it
Using only one source for the answer	Fact card ticks only one source box	Require two ticks and ask how two sources help check facts and see angles [8].
Copying sentences word for word	Card words match Source 1 exactly	Cover source and retell in own words, then write; good work is organized and fair [11].
Picking a too-broad question like What is space?	Task A colors broad as focused	Narrow to one aspect like sleep, food, or home and retest can finish in days [6].

Support

- Sentence-starter cards and pre-marked facts to find and underline in sources
- Picture cues for Plan, Gather, Conclude and three-box fact template with one line per box
- Partner reading and walking through steps together with LSE checking ticks

Stretch

- Add a fourth fact that compares two sources and notes where they agreed
- Write a follow-up question for a gap and list what source would answer it next
- Add Sources Used strip with one sentence about what each source added

For the LSE or teaching assistant

Stay with target pairs in main activity to keep Task E steps ticked, read Source 1 and 2 aloud, and prompt own-words writing.

Check for understanding

Question	Answer
What is a short research project?	Short hunt that builds knowledge about a topic.
Why use 2 or 3 sources?	To check facts and see different sides.

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Your question is too big. What do you do?	Fix or narrow it to one aspect like sleep, food, or home.

Homework

Bring one new just-right question about animals you want to investigate next.

Sources

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