Welcome to the world of Ediacara! My name is Ian.

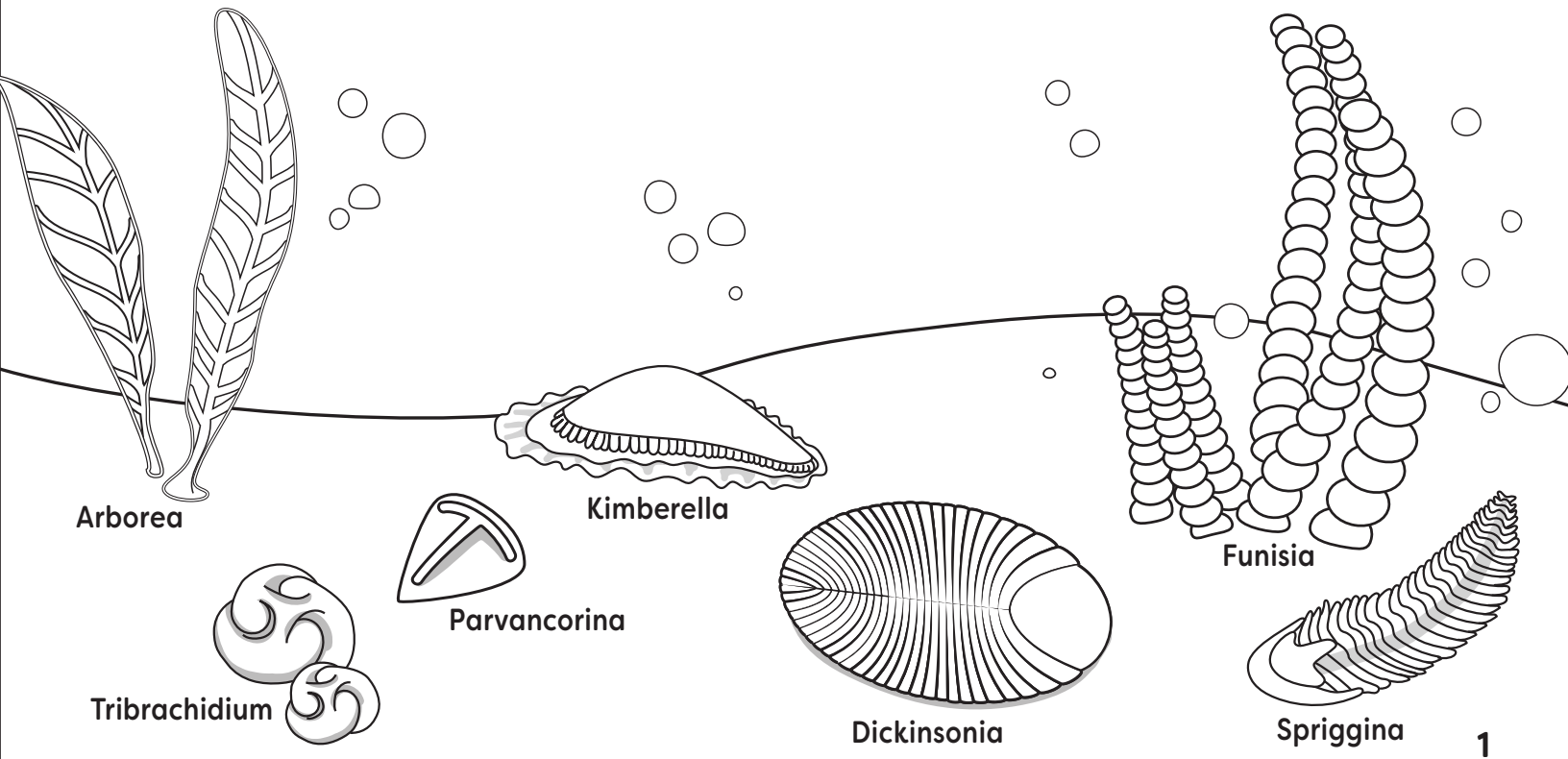
I will be your guide through the world of Ediacara (pronounced ee-dee-ack-rah). I want to introduce to you to my *really old* friends!

The Flinders Ranges are amazing for finding fossils! There's one special place called Nilpena where we've found many fossils. Because there are so many important fossils there, Nilpena is being protected as a national park.

Let's go back 550 million years to see what the Australian Outback looked like. During this time the outback was underwater, and the seafloor was covered with a thick layer of goopy muck!

The animals that lived in this slime were not like sea animals today. These were some of the first complex animals on Earth. They were squishy, boneless creatures. Only some were able to move, and most sat in one spot for their entire life!

Here are what some of these animals looked like. Can you help to give them some colour?



Tools of the Trade

The people who study these old animals are called Palaeontologists. Palaeontologists study everything from dinosaurs to plants, but here in South Australia, Ediacaran fossils are extraordinary! The best record in the world of these creatures is found here in the Ediacaran Hills of South Australia.

Palaeontologists need special supplies to help them find new fossils. Find the different tools needed to discover new fossils!

Word Bank:

Sun Hat	Backpack	Gloves	Lunch	Post Its
Hammer	Brushes	Water	Camera	Silly Putty

L P Z W W P I Y L R W J G U F
V U A C Q Z N W Y A Y M S G E
T E N A D R T X S U N H A T L
G S W C W G L O V E S L O H W
I Y S R H B R U S H E S O V J
I V C O C I K P O S T I T S X
N H V O L U G C K N Y X Y O W
H A M M E R C C A M E R A W A
B Y F Q Z W A W D Y V K R D T
S I L L Y P U T T Y J F I X E
H K O Z K V Y X E F J Q S F R
F E T C T H Z G T G Q Y K Q W
E Z A R X I P E B F W A Z R R
J B Q N I D U G F S J N O Y P
L S E R Y A Y S V B T Y J H Q

Snacks to Go

Searching for fossils is hard work! Sometimes we need a little energy to help us through the day. One of our favourite snacks in the field is GORP.

GORP is a healthy snack that gives you energy. It is safe in the heat and easy to carry while working or playing in the Outback. It is a mixture of various nuts and dried fruits, and a chocolate sweet.

How you make your GORP mixture is up to you! Make sure to cut up any large pieces of fruit or nuts so that they are bite-size and easy to eat on-the-go.

Nuts: almonds, walnuts, pecans, or peanuts

Fruits: sultanas, apricots, pineapple, dates, pears, plums, apples, or dried berries

Sweets: smarties, yoghurt chips, or chocolate chips

Once you've made your perfect mix, put it in a bag and get on the move!

Did you know?

FACT #1: Fossils are preserved on the base of layers of sandstone. These layers are stacked on top of each other and can be traced for over a kilometre!

Word Scramble

Here are a few of my favourite Ediacaran fossils, but it looks like their names have become a bit mixed up!

Help me unscramble their names by using the word bank.

Word Bank:

Dickinsonia	**Aspidella**	**Rugoconites**
Arborea	**Kimberella**	**Spriggina**

aniidskonic = _____

earroab = _____

asiplelad = _____

amkirbeell = _____

oounirgctes = _____

pgrsigian = _____

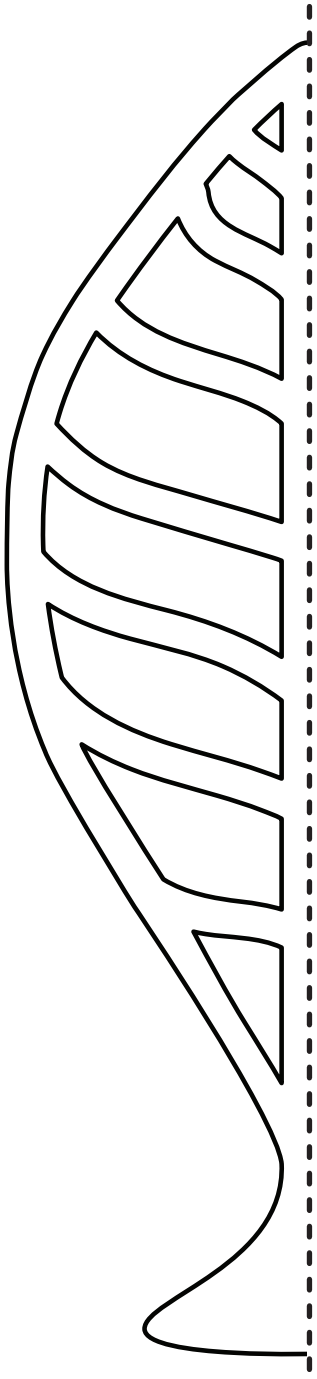
Did you know?

FACT #3: *Spriggina* was one of the first animals to have what looks to be a head. It was also bilaterally symmetrical. That means that the left side looks like a mirror image of the right side. You are bilaterally symmetrical, and so is your dog, your fish, your lizard, and a red back spider!

Let's Draw!

I've drawn one side of this *Arborea*.
Can you draw the other half?

Hint: It is bilaterally symmetrical, just like we talked about in Fact #3.



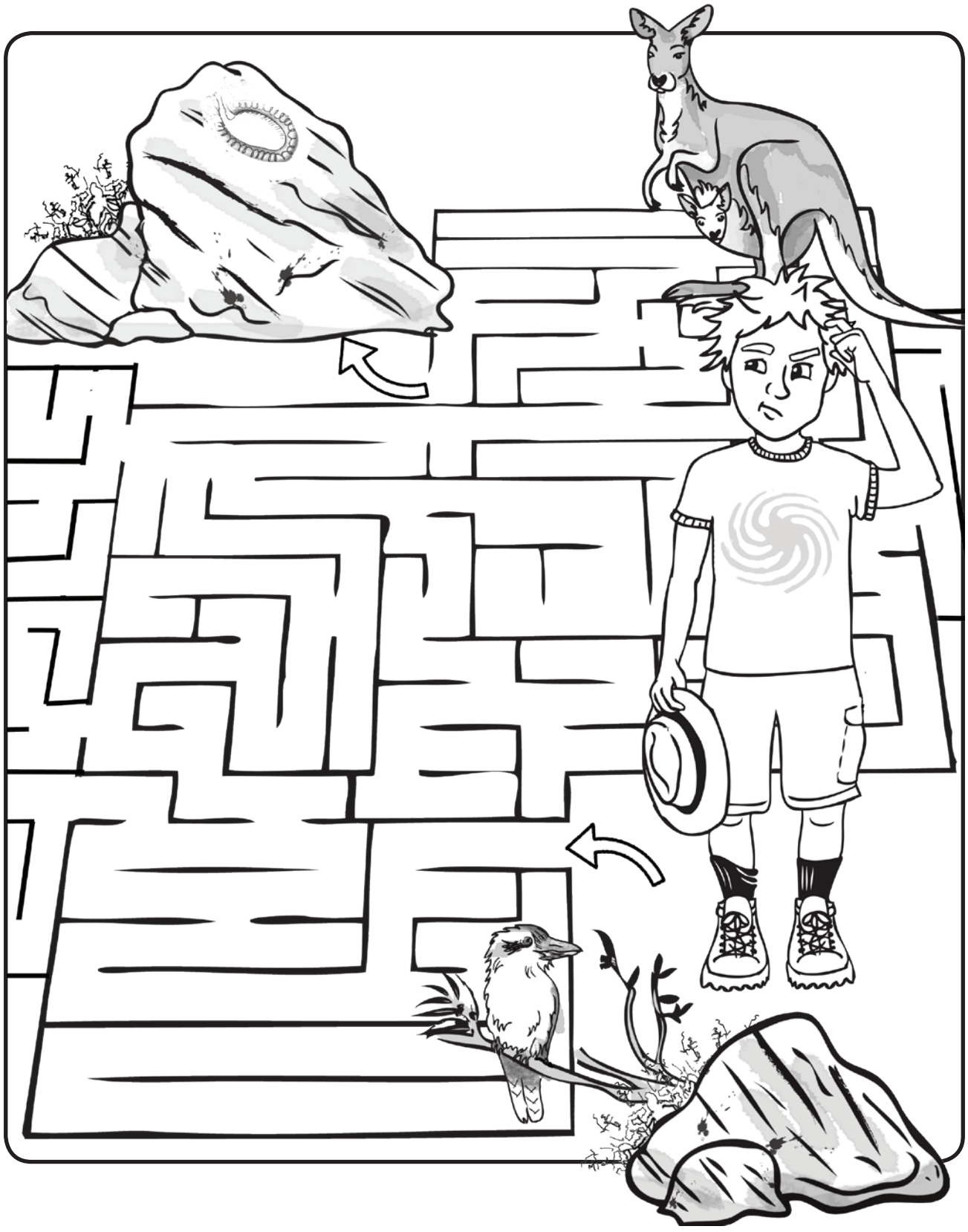
Did you know?

FACT #4: One of the most common animals on the seafloor 550 million years ago was called *Arborea*. These were attached to the seafloor, lived very close together, and could be over a metre high! They looked like a giant sea pen.

Fossil Maze

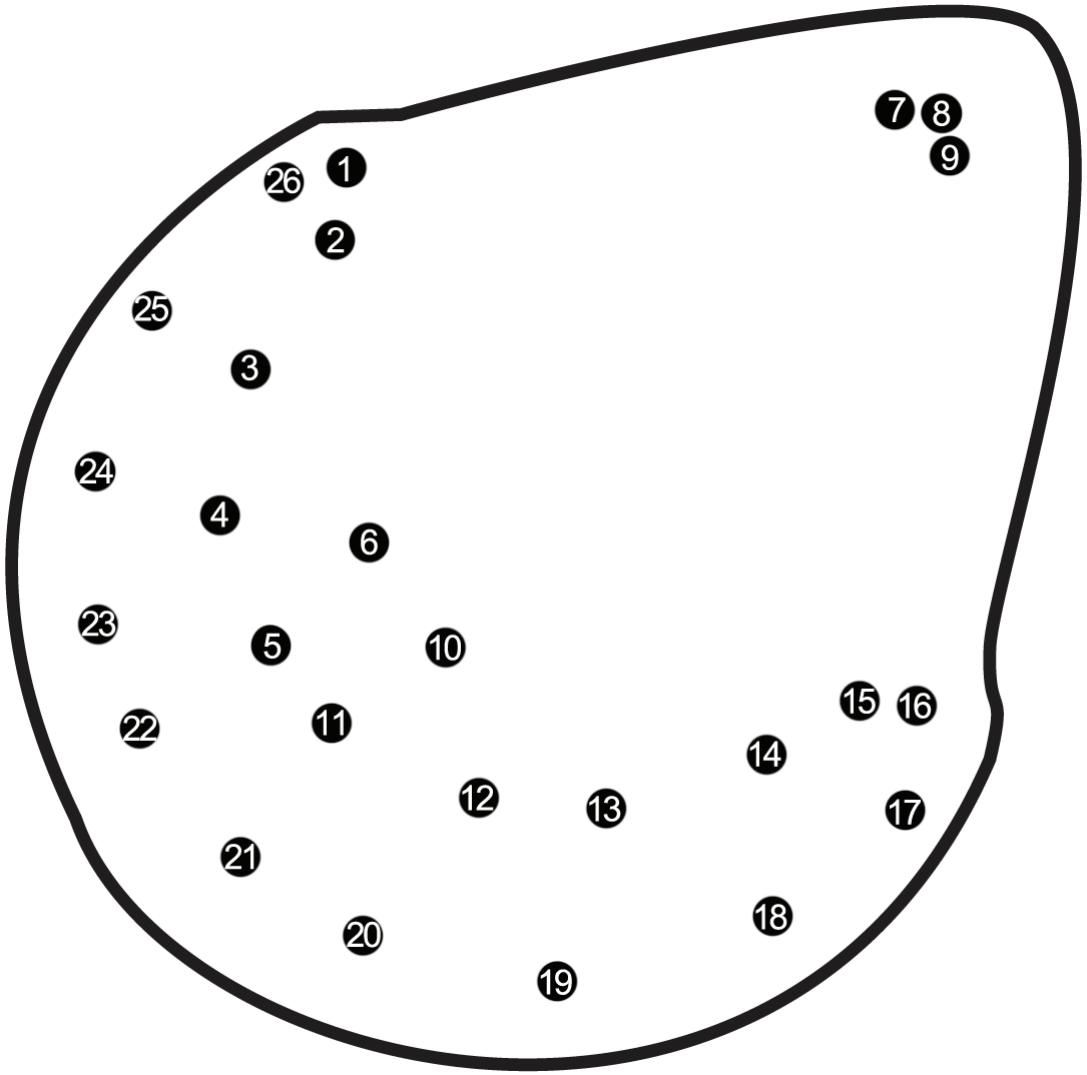
Sometimes while looking for fossils we can get a bit turned around. I found a great *Kimberella* specimen, and now I can't find it again!

Can you help me return to where I found the fossil? I'll follow the path that you draw!



Dot-to-Dot

Is it a tool or fossil? **Connect the dots to discover what is hidden.**

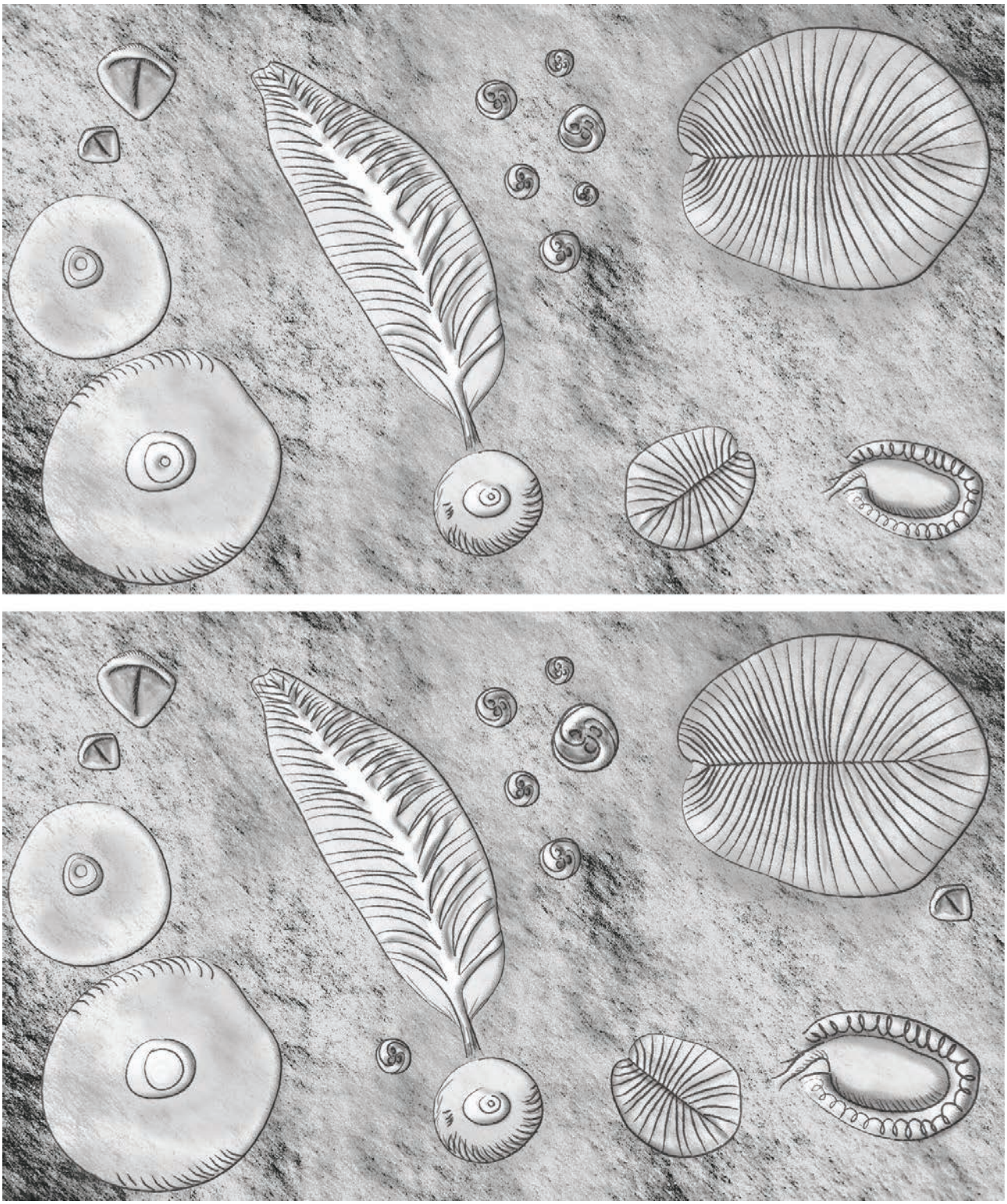


Did you know?

FACT #4: *Parvancorina* is a common fossil in South Australia. It's name means "small anchor". Can you guess why?

It takes a sharp eye to find fossils.

There are 6 differences between the two pictures. Can you find them all?



Did you know?

FACT #5: It is fun to hang out with kids who are the same age as you. *Tribrachidium* spent all of its life attached to the seafloor with other *Tribrachidium* of the same age. How fun!

Wordplay

We often play games to pass time while cleaning fossils in the field. I love making up stories! Will you help me finish this one? **Before reading the story, ask a friend to help you fill in the blanks. Then read the story with the words you filled in!**

A Day in the Life of a Palaeontologist

Each morning I _____ (verb) out of bed, excited for the day to start. I pack my field bag full of _____ (noun), _____ (noun), and _____ (noun) so I will be prepared for the day ahead. After driving across the _____ (adjective) road, we arrive at the fossil site. I am _____ (adverb) excited because I am spending the day _____ (-ing verb) for fossils. I am looking for _____ (adjective) Dickinsonia but I will keep an eye out for anything _____ (adjective)! The weather is perfect for fossil searching. The sky is _____ (adjective) and there are no _____ (plural noun). Now if only the _____ (adjective) flies would stay away, I have no doubt I will have a _____ (adjective) day!

Off to my right I see a mother and baby _____ (noun). I pull out my camera to try to take a picture, but they see me and _____ (verb) away.

I see what looks like a _____ (noun) on the ground. I take out my brush to _____ (verb) off the dirt. I found a(n) _____ (adjective) Dickinsonia! I _____ (verb) back to the rest of the group and bring them to see my fossil. We record the location and take many pictures of my fossil. Today was a _____ (adjective) success! As I walk back to the car, I think how excited I am to do it again tomorrow!

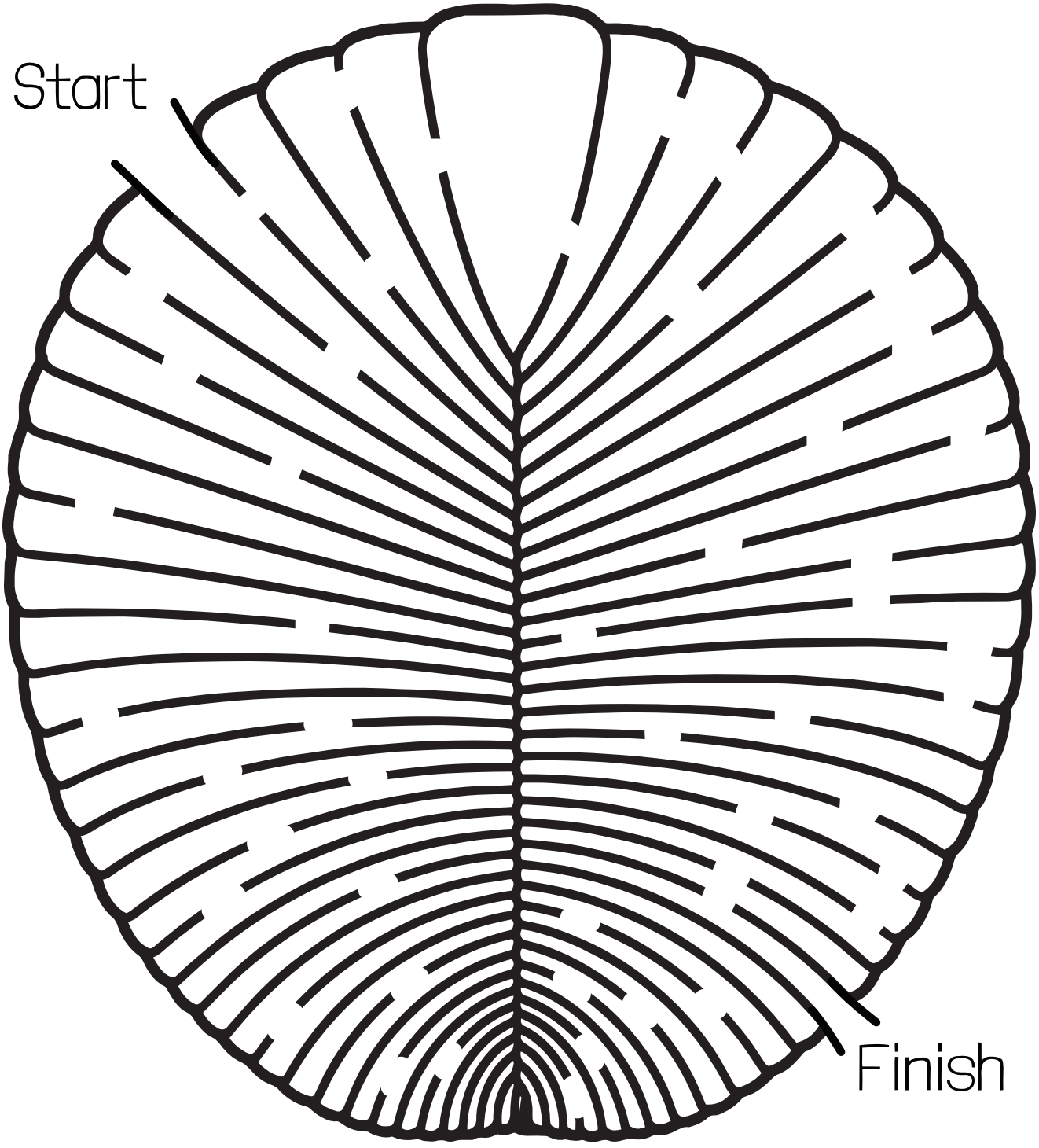
Who am I?

Color in the sections below to reveal the picture!

1 = Blue 2 = Green 3 = Yellow 4 = Red

Segment Maze

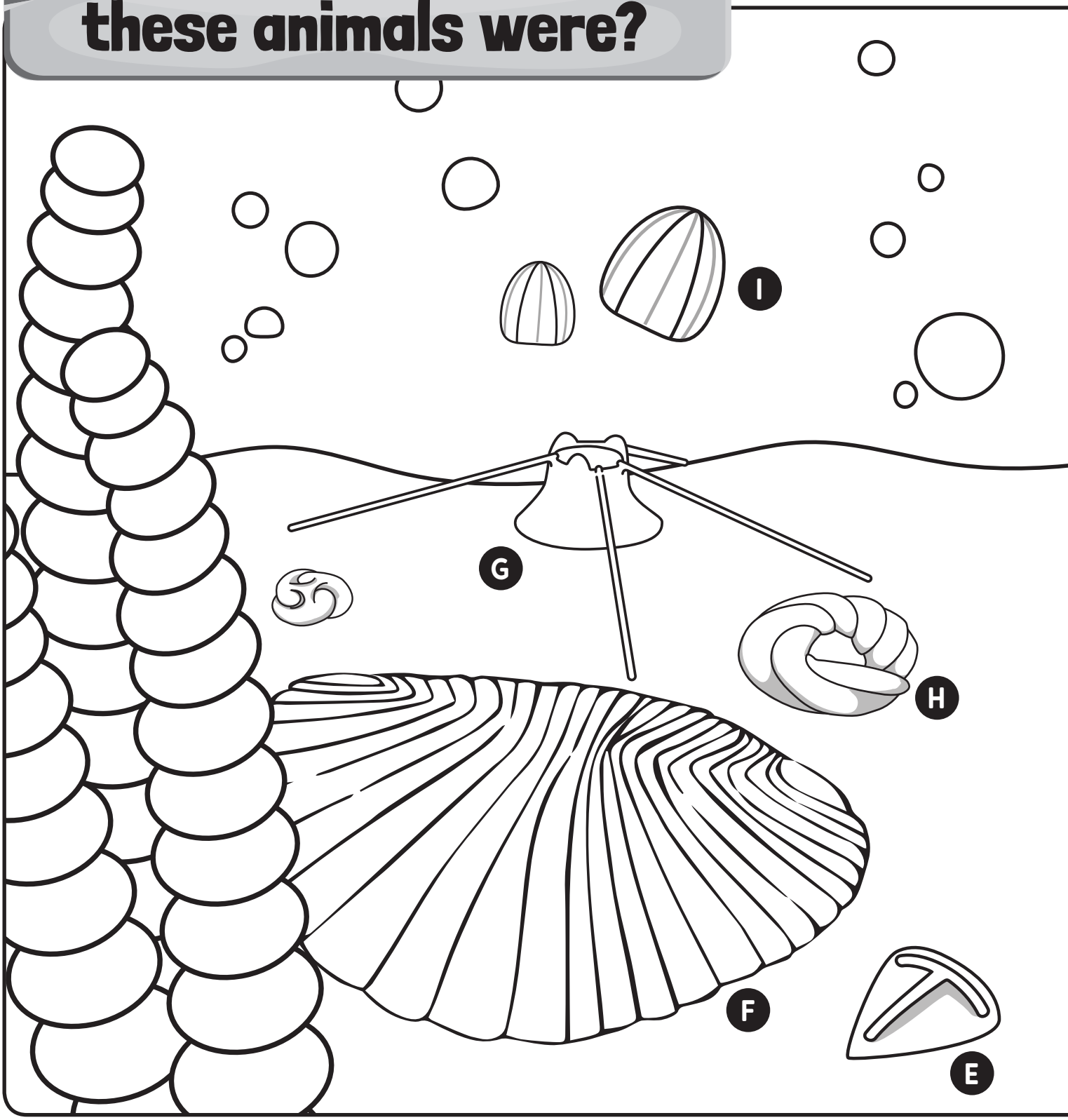
Can you make your way through the Dickinsonia Maze?



Did you know?

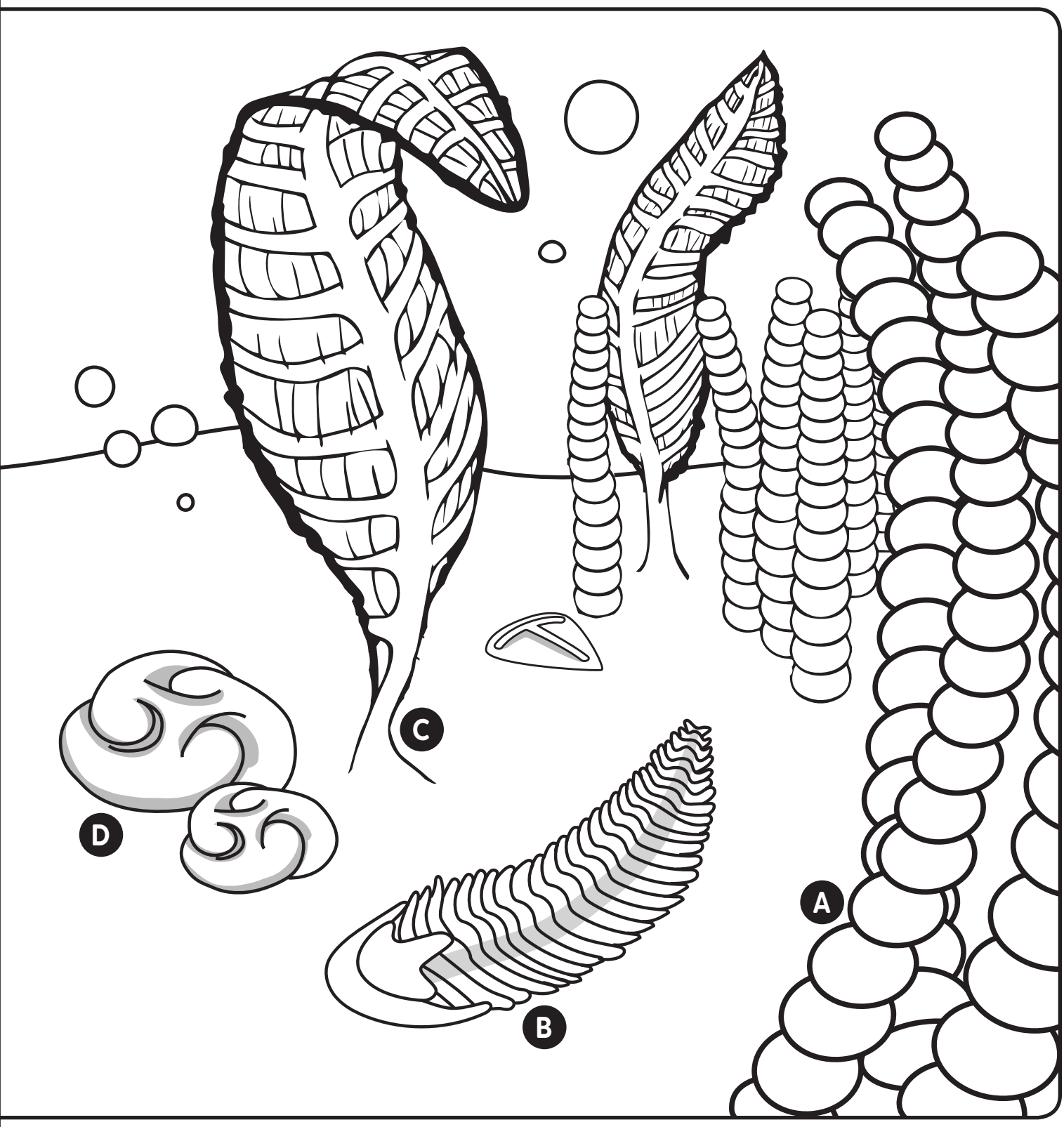
FACT #6: The largest *Dickinsonia rex* found is over a metre long. It looks like a fossil bathmat!

What colour do you think these animals were?



Did you know?

FACT #7: *Coronacollina* was the first organism to have a skeleton! It didn't have a skeleton inside of it's body like we do, but it had long bits of skeleton—called spicules—that looked like knitting needles.



A: *Funisia* B: *Spriggina* C: *Arborea* D: *Tribrachidium* E: *Parvancorina*

F: *Dickinsonia* G: *Coronacollina* H: *Obamus* I: *Attenborities*

Name that Fossil

This is a tough one! These are pictures of a few of the Ediacaran fossils I discovered today, but I forgot to label them!

Can you help me identify which picture is which fossil using the word bank?

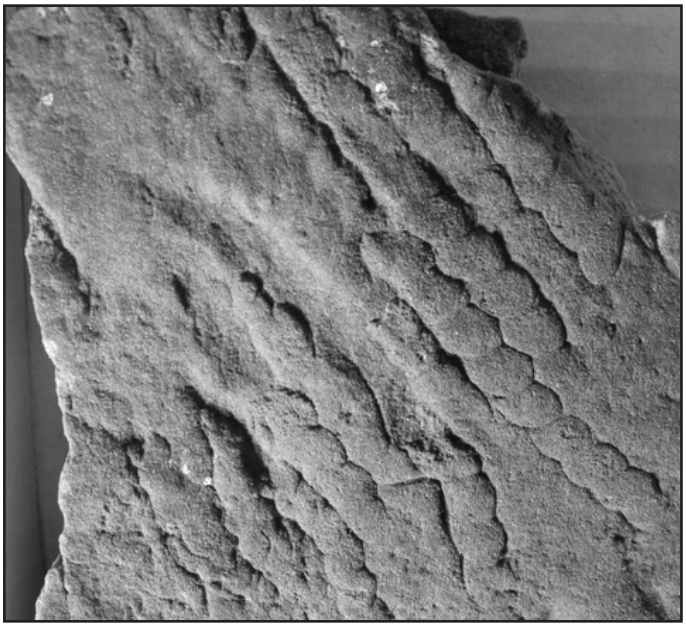
Word Bank

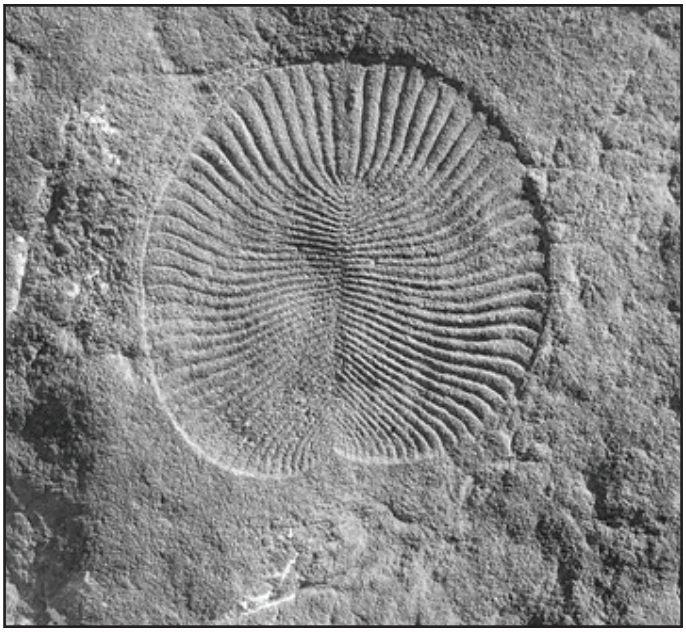
Spriggina	**Parvancorina**	**Dickinsonia**
Funisia	**Arborea**	**Tribrachidium**

Did you know?

FACT #8: *Dickinsonia* had segments and was one of the oldest animals to move.

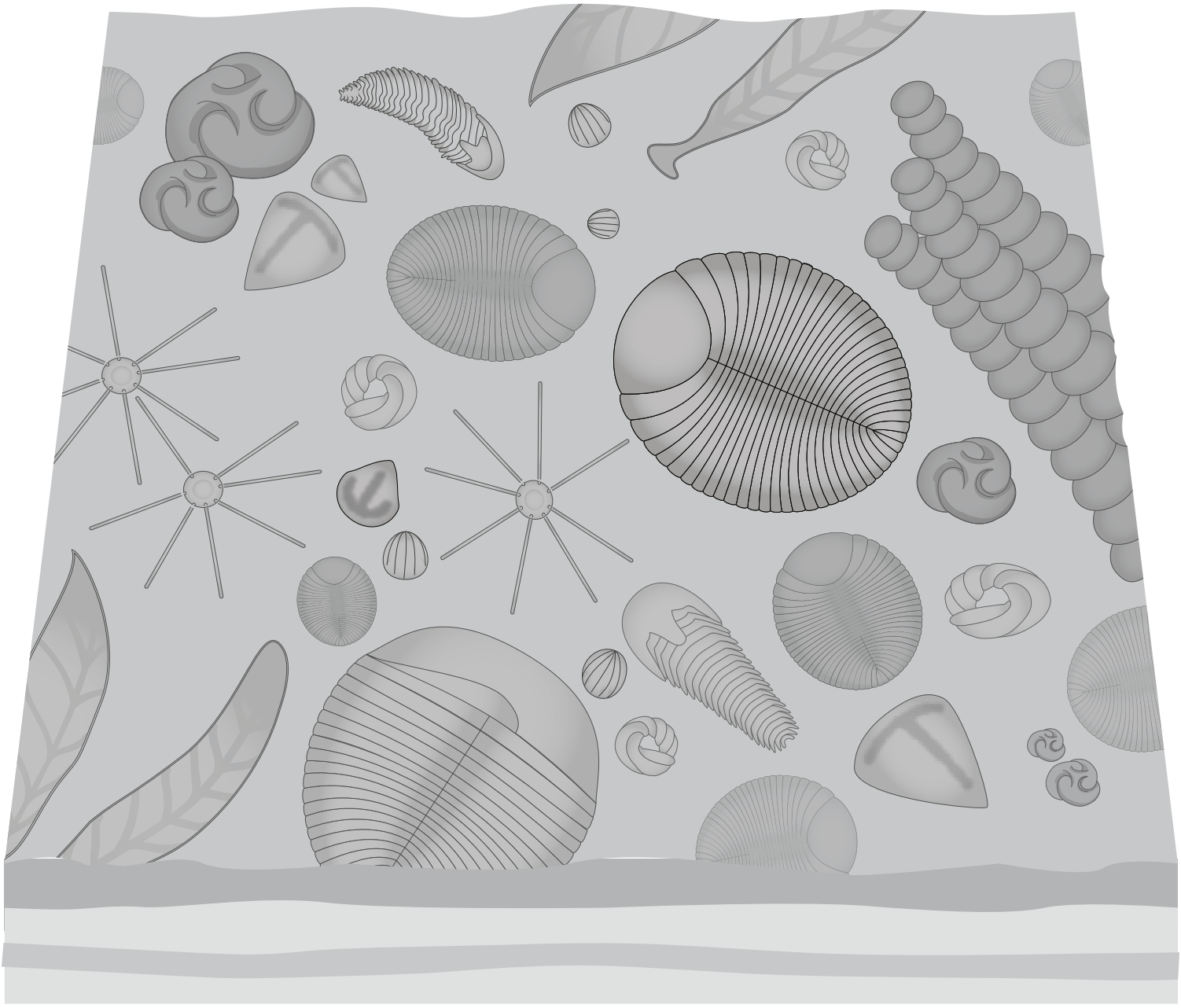
Answers: 1 = *Arborea*, 2 = *Parvancorina*, 3 = *Dickinsonia*, 4 = *Tribrachidium*, 5 = *Spriggina*, 6 = *Funisia*





Fossil Spotting

I made a quick drawing of a piece of Alice's Restaurant Bed (A.R.B.). It's one of our favorite fossil finding spots because it has everything you could want! How many fossils can you find? **Write down how many of each you find on the following page.**



Did you know?

FACT #9: *Funisia* is named after the Latin word for rope. Can you guess why?

Write down how many of each fossil you see:

Arborea

Attenborities

Coronacollina

Dickinsonia

Funisia

Obamus

Parvancorina

Spriggina

Yorgia

Answers: *4 Arborea, 4 Attenborities, 3 Coronacollina, 8 Dickinsonia, 3 Funisia, 4 Obamus, 4 Parvancorina, 2 Spriggina, 1 Yorgia*

Did you know? The whole A. R. B. has:

17
Andiva

78
Attenborites

1
Aulozoan

23
Bundles of Filaments (Algae)

8
Coronacollina

51
Dickinsonia

1
Funisia

9
Obamus

5
Palaeopascichnus

10
Parvancorina

6
Plexus

10
Spriggina

1
Yorgia

A.R.B. Crossword

Sometimes it's hard to see what you're looking for on one of the fossil beds—but once you find it, you can circle it to remember where it is.

Can you find and circle all of the different fossils on Alice's Restaurant Bed in this crossword puzzle?

Word Bank:

Andiva	Yorgia	Arborea	Rugoconites	Obamus
Dickinsonia	Funisia	Algae	Parvancorina	Spriggina

O T D K N S V S P R I G G I N A C
S T T P R Z N X I B T X V Q F D Y
R U G O C O N I T E S F Z W I B B
X D I C K I N S O N I A K C Z A C
M O E L V P N M P B J V N C G P I
U A N D I V A A Q G F E C Y I P D
F C G S B U X R R H L U T P B Y R
L A N C M G E D V B C H N X H Z Q
X P I U B W N Y E A O E S I V C Z
E B V S C L B W O D N R N S S Y Y
F A A A B E G B R R Y C E X P I W
H H Q L Y X O K I J G T O A H J A
P V R R G Z E C V N A I B R Q D T
E Z J F E A K T F P B Z A T I Q O
E P K D K A E L X T E Q M E G N Y
U Z O B A M U S P J Q M J B X J A
F P Q Q S M M C Y Z U S V B W L G

Draw Your Own Fossil

Create your own fossil!

Here are some things to thing about: is it flat like *Dickinsonia* or does it stand up like *Arborea*? Is it bilaterally symmetrical? Does it live in a group or alone? What color would it be?

Did you know?

FACT #10: *Somatohelix* lived on the seafloor and looked like a spiral noodle or a corkscrew!

Let's Play a Game!

Now you're an expert in Ediacaran fossil trivia! Grab a few friends and teach them fossil names and geology facts through this fun matching game.

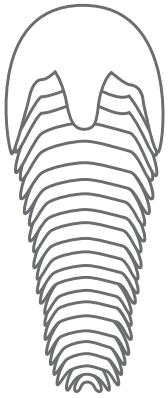
1. Cut out each card on the page at right
2. Shuffle the cards and lay them out picture side down
3. Flip over two cards. If the two cards match, hold onto them, and take another turn. If they do not match, turn them back over and the next person gets a turn.
4. The player with the most pairs at the end wins!

Tribrachidium

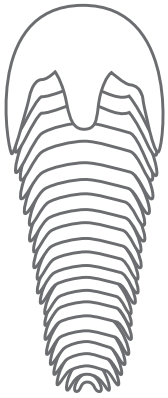
Tribrachidium

Obamus

Obamus

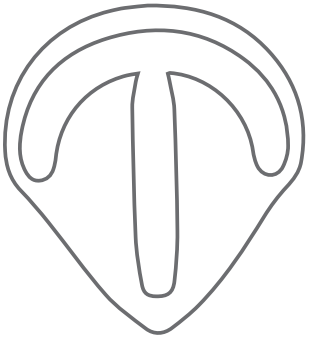


Spriggina

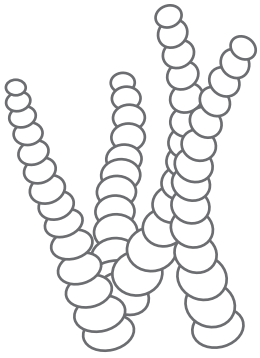


Spriggina

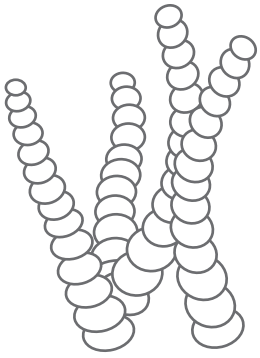
Parvancorina



Parvancorina



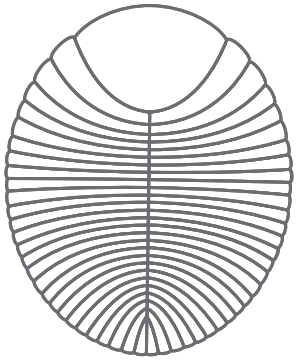
Funisia



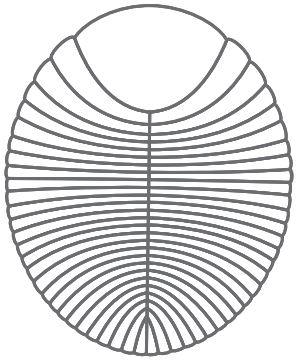
Funisia

Arborea

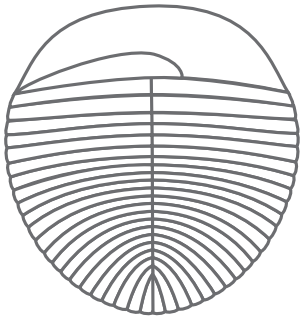
Arborea



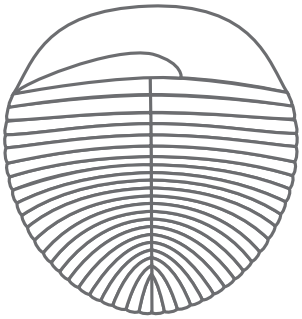
Dickinsonia



Dickinsonia



Yorgia



Yorgia

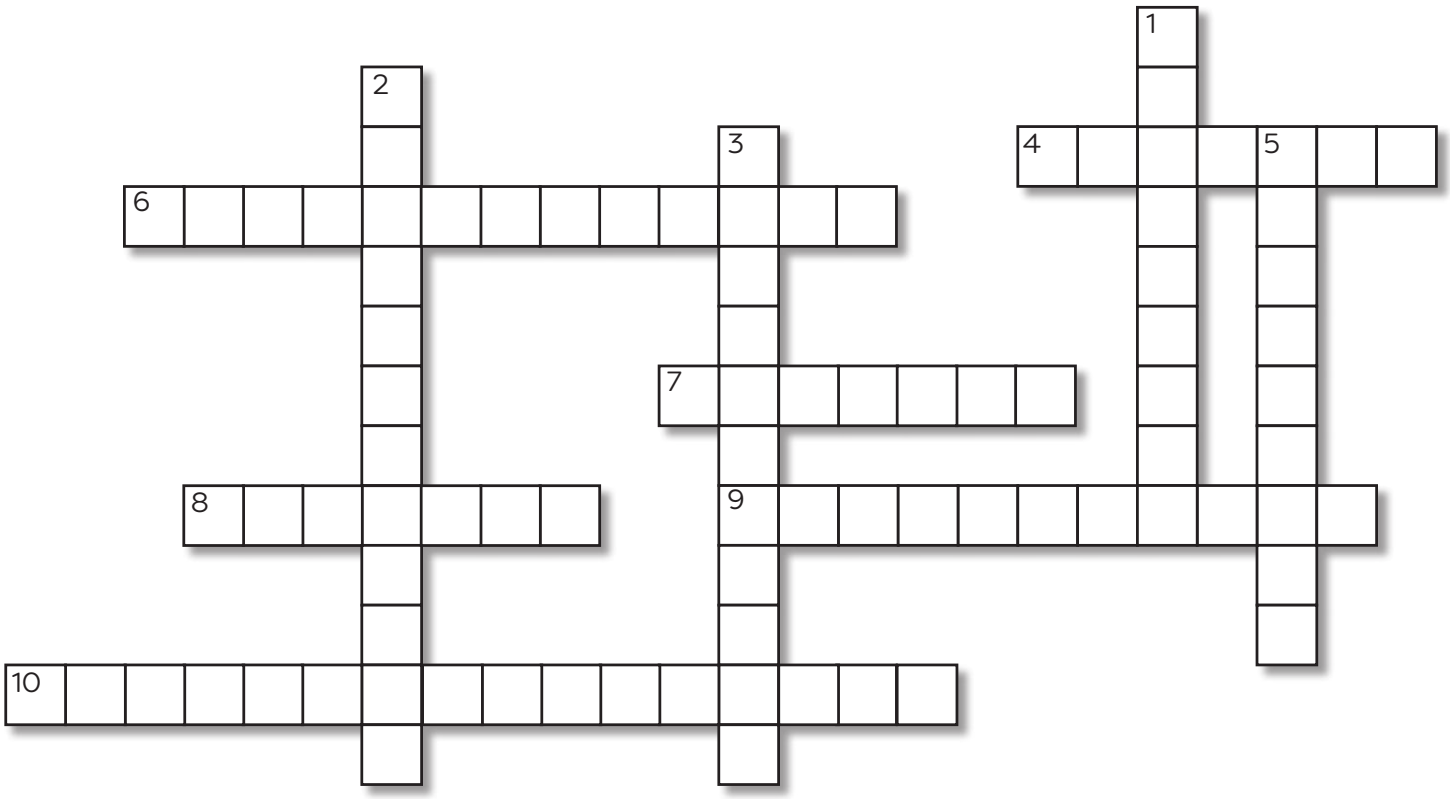
Can you complete this crossword puzzle using all of the facts that you learned in this book?

Across

2. Fossils are preserved in this kind of rock.
4. Its name means small anchor
6. Has segments and is one of the oldest to move.
8. These scientisits study fossils.
9. Looks like a spiral noodle!

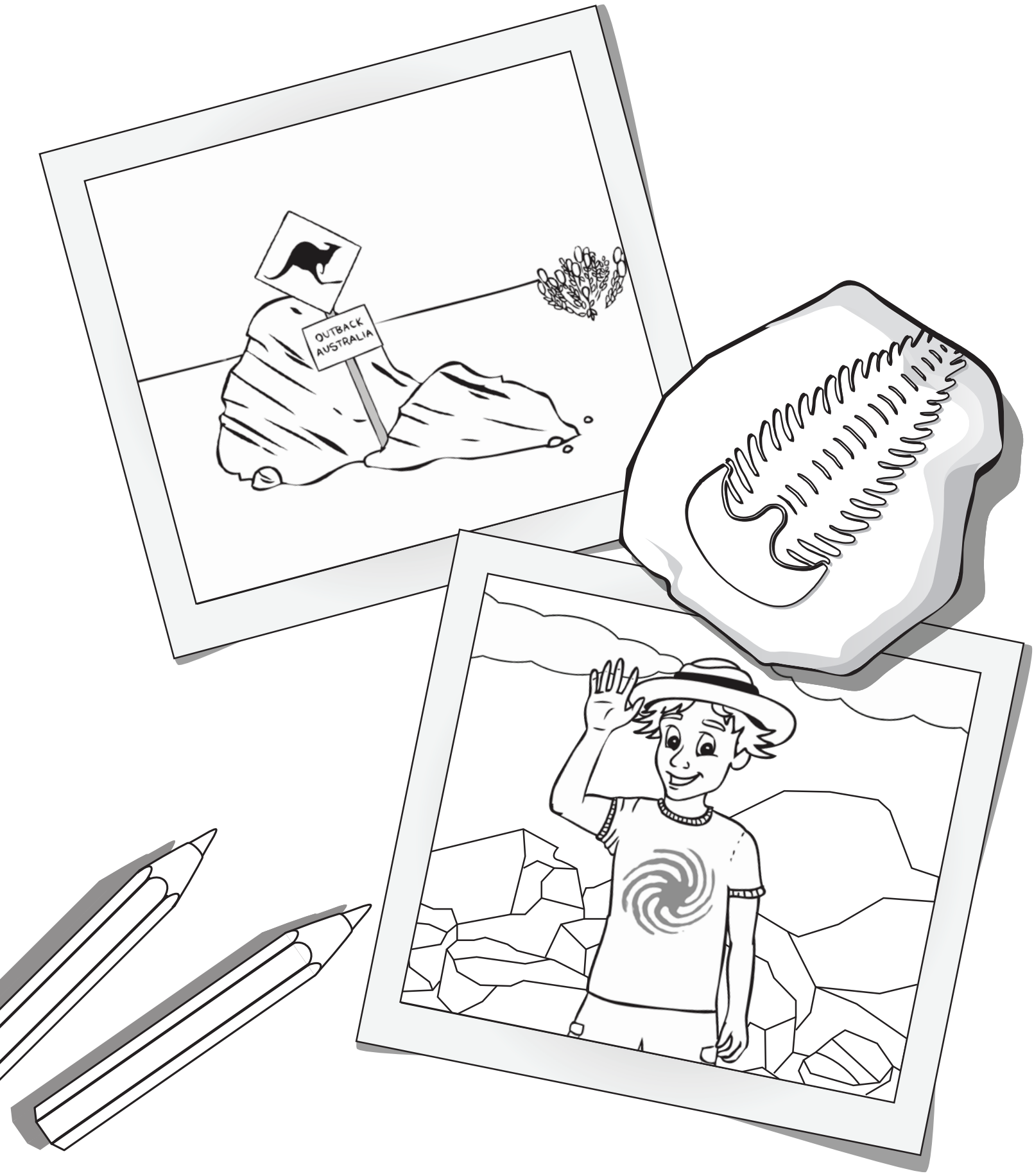
Down

1. Named after the Latin word for rope.
2. One of the first animals to look like it had a head
3. Has three arms and likes to live with others of the same age.
5. This one looks a bit like a sea pen
7. Ediacaran fossils are 550 _____ years old!



Word Bank

Spriggina	**Sandstone**	**Million**	**Palaeontologists**	***Somatohelix***
Funisia	***Parvancorina***	***Arborea***	***Dickinsonia***	***Tribrachidium***


OUTBACK
AUSTRALIA