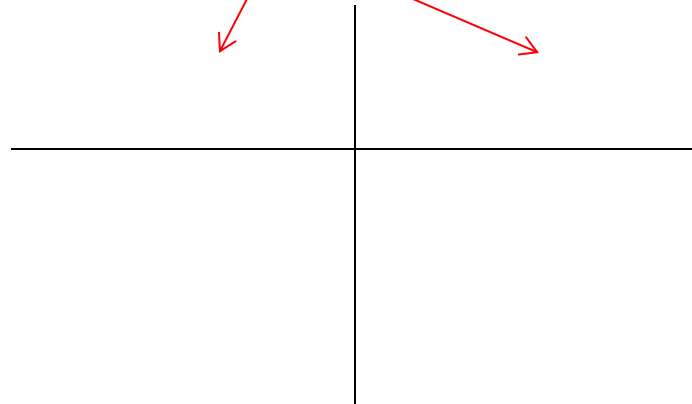


Interactions Among Living Things

Chapter 1, Section 3

BW- 1-4-13 What do you know about this section? Page 55

- Preview all of the pictures, red and blue words, highlighted words and graphs and *do at least 4* **“What you already know” about this section on the left side of the paper.**
- While we read 1-3, we will complete the right side “What I learned” (later today)



Read page 24

- Here is some info about a saguaro cactus.
- <http://en.wikipedia.org/wiki/Saguaro>

Adapting to the Environment

- Natural Selection- read page 25

Adapting to the Environment

- What features enable fish to survive in an under water environment?
 - [Fish Adaptations](#), staple [worksheet](#) onto spiral p. ____
 - [Build a Fish online activity](#) (if extra time)
 - What are other examples of how organisms are adapted to their environment?

- Describe three of the prairie dog's adaptations and how it help the prairie dog to survive.

- Prairie dog link

- 1. name the adaptation - tell how it helps it to survive

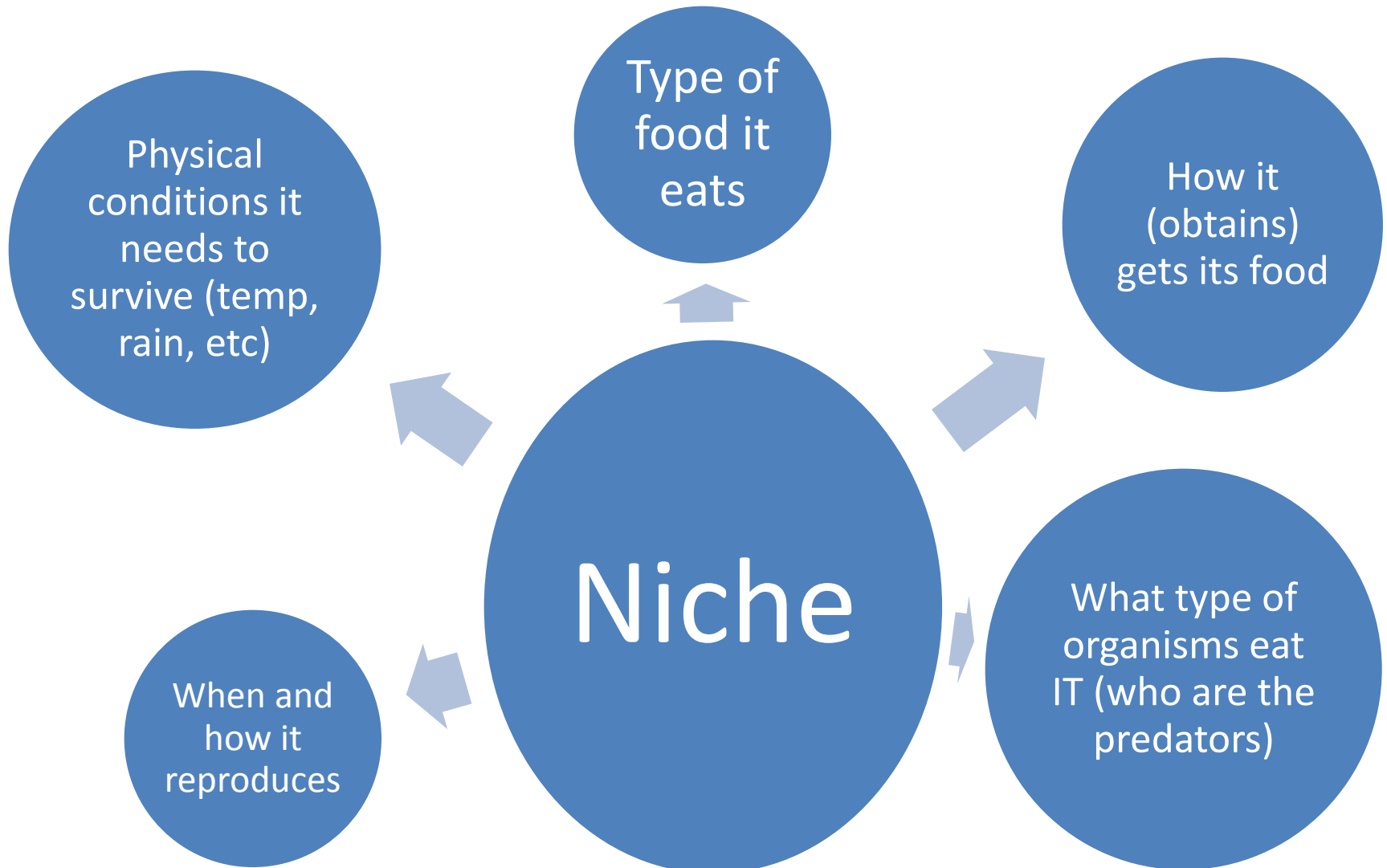
- 2. _____ -

- 3. _____ -

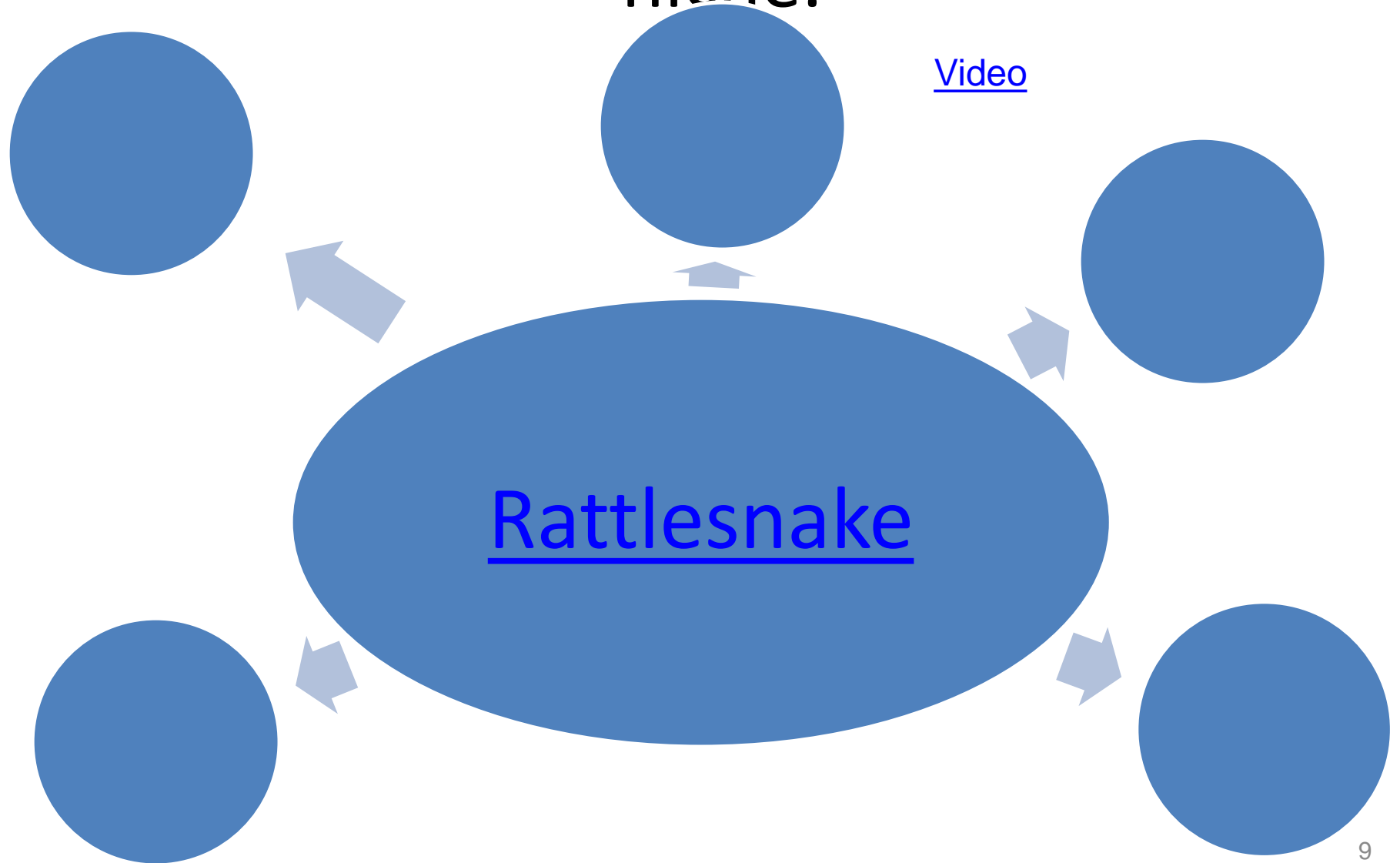
Niches

- Look at Figure 12, page 25
- Give examples of how the roles of these organisms differ in the community.
- What are adaptations?

Niche Diagram-



Create a diagram of a rattlesnakes
niche.



Changes Within Species

- A population of wild mice might have either **brown** or **gray** fur. **Brown** mice are common because they escape predators more successfully. Then **new predators** that hunt by sound move in.
- What traits might now determine how easily a mouse is caught?
- Will any mice develop new traits because of the predators?
- How might the population change?

Competition

- Read page 26.
- Complete notes # 4-5.
- 1. Why can't two species occupy the same niche?

Competition

- In a community, organisms interact.
- In a community, there is a limited amount of some resources.
- 2. What happens when more than one species requires the same limited resource? (Look at figure 13, page 26.)
- 3. What advantage is this for the three birds?
- 4. For what resources do the tree and the grass in Figure 13 compete?

predator – prey relationships

- **Name 3** predator – prey relationships that you can think of. (Be sure to show which organism is the predator and which is the prey.)

- | <u>Predator</u> | <u>Prey</u> |
|-----------------|-------------|
| | |

Predation

- Read page 27.
- Answer notes # 6-7.
- Visualize a cricket habitat set up in a terrarium.
- 1. What would happen if you added a toad to the habitat?
- 2. What would happen if you also added a snake?
- 3. Which of these animals would be prey?
- 4. Which of these animals would be a predator?

- 5. Can you identify a feeding relationship in which one organism is BOTH predator and prey?

Analyzing Data

- Analyze (look really closely at) the graph on the next slide and answer the 5 questions using the graph in your spiral.
 - 1.
 - 2.
 - 3.
 - 4.
 - 5.

Course Content

AP* & ELECTIVES

CAREER & TECHNOLOGY

LANGUAGE ARTS

MATH

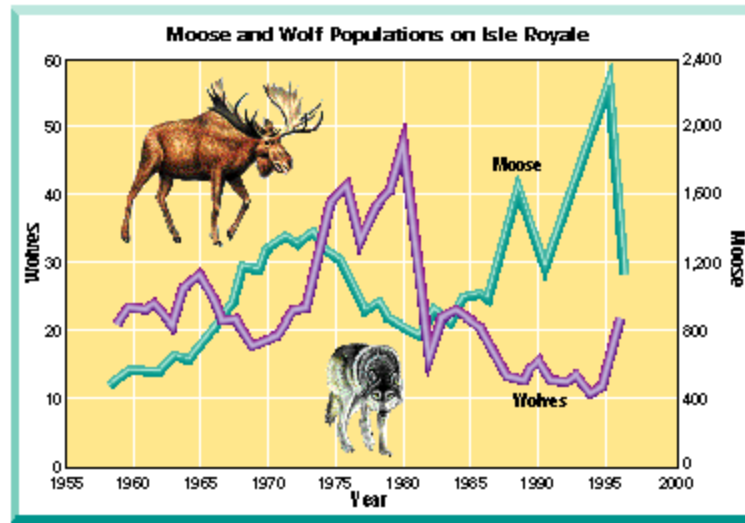
SCIENCE

SOCIAL STUDIES

WORLD LANGUAGES

Internet Activity

Interacting Populations



Different species in a community can have a great effect on each other. In the graph above, notice how the moose and wolf populations on Isle Royale are related. Then, answer the questions below.

1. How did the Isle Royale wolf population change between 1977 and 1980?
2. How did the moose population change during that same period?
3. How did the wolf population change between 1986 and 1988?
4. How did the moose population change during that same period?
5. How are the wolf and moose populations related?

Check your [answers](#).

ANSWER THESE
QUESTIONS
YOURSELF
CHECK YOUR
ANSWERS

Answer these five questions using the graph.

Analyzing Data page 27

- Look at the diagram on textbook page 27. Answer the questions 1-5 (these are **different** from the last slide.)
- Go Online to www.phschool.com, you will need to enter the Web code: ced-5013
- Click on “Check your answers” at the bottom of the page and correct you answers.

- Staple the Interactions Table on the top of page 64.
- Go Online to www.phschool.com, you will need to enter the Web code: ced-5013
- Scroll down until you see Aleutian Islands, Alaska. It looks like the next slide.

PEARSON

Course Content

AP* & ELECTIVES

CAREER & TECHNOLOGY

LANGUAGE ARTS

MATH

SCIENCE

SOCIAL STUDIES

WORLD LANGUAGES

Internet Activity

Interacting Populations

Aleutian Islands, Alaska

Orcas, also known as killer whales, are devastating the population of sea otters off the coast of Alaska. The journal Science reports that the sea otter population surrounding the central Aleutian archipelago in Alaska has declined by at least 40,000 since 1990, and evidence is mounting that the orcas are responsible.

Until recently, orcas have preferred to eat seals and sea lions insulated with thick layers of high-calorie blubber. But in recent years those species have declined in numbers, possibly due to overfishing and/or changing ocean currents and temperatures. As a result, the orcas have been forced to hunt closer to shore and have added sea otters to their diet. In the 1970s, more than 50,000 of the otters lived along a 500 mile (800 kilometer) stretch of the Aleutian Islands. The population has now been reduced to about 6,000.

The drastic decline in sea otters has resulted in an over-population of sea urchins, the otters' favorite food, which has in turn wiped out much of the underwater kelp forest. This chain of events has greatly disrupted the balance of the kelp forest ecosystem, home to a tremendous variety of marine life. Researchers are concerned that the sea floor in the area could ultimately become barren.

Additional information on [fauna](#) from Planet Diary.

Return to the [activity page](#).


Do NOT do this

staple This ACTIVITY PAGE I give you IN YOUR JOURNAL p.

Web Codes: [What's this?](#)

 [SuccessNet Login](#)

Technical Support
1-800-234-5832
M-Th: 8:00A.M.-Midnight EST
F: 8:00A.M.-10:00P.M. EST

 **Novell iPrint Client**
Document printed successfully

Staple this on spiral
page

Interactions Table

Species	Change in Population	Reasons for Change
Stellar sea lion		
Harbor seal		
Orca (killer whale)		
Sea otter		
Sea urchin		
Kelp		

Defense Strategies (nothing to write)

- Look and read about each defense strategy in figure 16, page 29. After you read, read the questions below and then click on the question to see if you are correct.
- What kind of defense strategy does a poison ivy plant have?
- What is an example of an animal using a chemical defense?
- How does this defense help a skunk survive?

Chemical Defense



1. A skunk spraying



1. The foul odor repels predators that try to attack the skunk; predators that have been sprayed by a skunk will avoid skunks in the future.

Symbiosis

- A close relationship between 2 living things, and at least one gets something good out of this relationship
- Say the three different types with me
 - Mutualism
 - Commensalism
 - Parasitism
 - READ PAGE 30-31

Thumbs Up (at least one)

- Mutualism- both benefit (get something good out of the deal)
- Commensalism- one benefits, the other **not** harmed
- Parasitism- one benefits, the other **is** harmed



Figure 17, textbook p.30

- 1. Why are these birds sitting on the hippo?
- 2. What are the three types of symbiosis?
- 3. How do the birds benefit?
- 4. How does the hippo benefit?
- 5. What type of relationship do the tick and the hippo have?
- 6. Which animal is the parasite?

More Symbiotic Relationships (nothing to write)

- Click on this link to see more real [symbiotic relationships](#). Just scroll over the pictures. Notice the relationships are divided into 3 parts.
 - 1st section- mutualism
 - 2nd section- commensalism
 - 3rd section- parasitism

Continued on next slide...

Continued...

- Your body is inhabited by other living things. Microscopic mites (*Demodex folliculorum*) live at the base of eyelashes, where they feed on tiny bits of dead skin and other detritus (loose material).
- What type of symbiotic relationship is this and why?



Picture is from National Geographic. (Hair mites)

What kind of Symbiotic Relationship?

(nothing to write) Click on each one to see the answer.

- [Remora and shark?](#)
- [Vampire bat and horses?](#)
- [Bacteria and cows?](#)
- [Clown fish and anemones?](#)
- [Termites and gut protozoa?](#)
- [Dogs and heartworms?](#)

commensalism

Remora benefits





Parasitism

Bat benefits, and the horses are
harmed



Mutualism

The bacteria receive food and a place to live, and the bacteria help the cows digest their food



commensalism

Clown fish receives protection



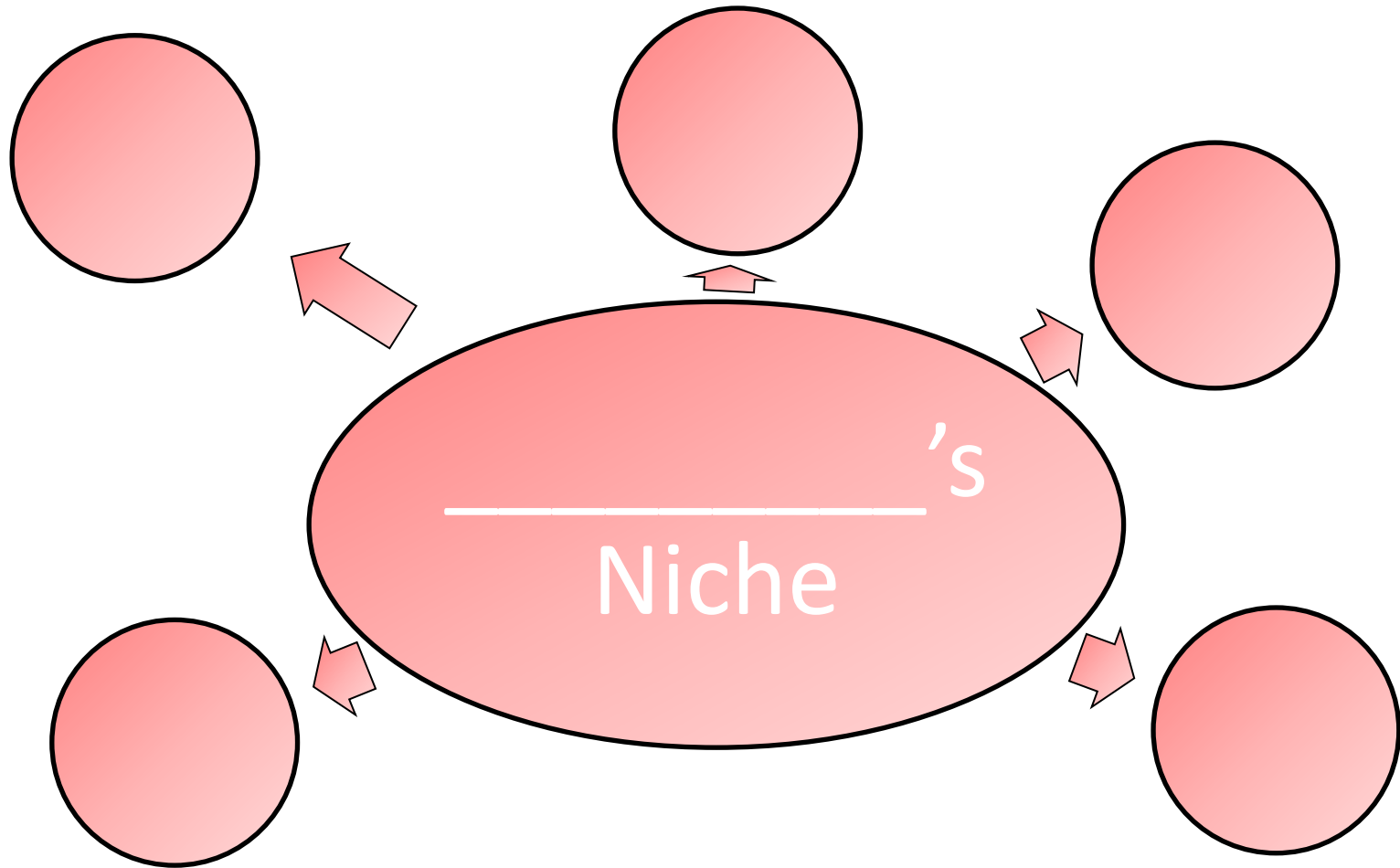
mutualism

The protozoa enable the termites to digest wood and the termites provide shelter and food

Parasitism

Heartworms live inside the dog clogging the blood flow from their heart; sometimes worms escape and can clog veins

Come up with a **niche** of an organism
of YOUR choice. Spiral p.



Section Assessment 1-3

And finally, book questions.

- Complete textbook, page 31, Section 3
Assessment on spiral pages _____ (*state the question in your answer.*)
- *Hint- question 2 a's answer is in bold on page 26!*

Extra Time Activities

- Complete the next slide about bird adaptations. Get the worksheet that goes with this from me 😊

Researching Adaptations

- I will give you a worksheet for you to complete about the special adaptations of bird's beaks. Go to the [Bird's Beaks web site](#) and use the site to help you complete the worksheet.
- Do NOT do the last picture (#8).
- Hint- the 2nd picture has a red head...
- Now check out the adaptations of birds FEET! Click on the link at the bottom of the birds Beaks web page or [click here](#). (No worksheet for the feet.)
- When you are finished if you have time, do the online [crossword puzzle](#).