

THEORY

What is a Theory?

Is about ...

Understanding the meaning of a theory

Order Specific information about this theory

A theory is the most logical explanation for events that occur in nature

A scientific theory is a powerful, time-tested concept that makes useful and dependable predictions about the natural world

When a scientist proposes a theory it must be tested over and over again

If a theory survives many tests it may be accepted by the scientific community

Theories can be wrong and may be changed after additional tests and/or observations

So what? What is important to understand about this?

Even if a theory survives many tests and observations here is no guarantee that the theory will be accepted by the scientific community

THING

Weather Shack

Basic features of the THING ...

It serves as a weather station for gathering data in remote locations

Actions people take because of

Twice a day the instruments in the weather shack are read & recorded, & info sent to a National Climatic Data Centers, monthly

PROBLEMS the thing was designed to solve

Weather patterns
 Weather predictability
 Running Records of highs and lows over long periods of time

Why some people value the thing

Many people who participate in the Weather Station project have done so for generations
 It is not unusual for a family to record data for a hundred years or more passing the job down from family member to family member

Why some people don't value the thing

Upkeep of the shack and the instruments can be a hassle
 Checking the instruments each day at the same time restricts the activities of the family
 The monthly report to the National Climatic Data Center takes several min.

Limitations of the thing

The weather conditions being reported are for a limited geographical area
 Human error when reading or recording findings from the instruments can cause incorrect data reporting

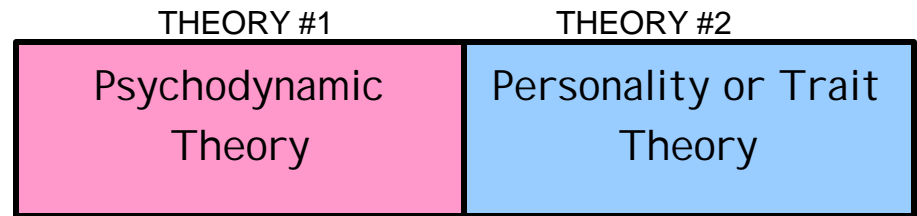
Knowledge Connections

This thing makes you think of ...

When my family was forced to raise a litter of orphaned puppies

Because ...

It happened during the summer and we had to plan all our activities around the puppy feeding schedule.



Two Theories for explaining Gambling

Main ideas	Features	Features	Conclusion
What is the theory supposed to explain?	The Psychodynamic or psychoanalytic theories see pathological gambling as within the individual's psyche	The Personality or Trait Theory focus on behaviors or traits of the individual which explains the tendency to gamble	One theory suggests that a gambler is born with the tendency to gamble and the other theory suggests that personality traits play a role in the addition
What are the key features of the theory?	The source of the problem is entirely internal, unconscious, and beyond the voluntary control of the individual	Gamblers studied show high scores on personality traits such as depression, achievement, anxiety, and low ego strength	If gambling is an uncontrollable act then all addictions are uncontrollable. I believe personality traits influence gambling & these traits can be treated
What evidence is there to support the theory?	Much of the evidence with this theory is based on single case histories and is difficult to prove or disprove	The weakness of the personality trait theories has been the attempt to find and catalogue the attributes of a problem gamblers personality	Both theories have some good suggestions, but neither solve or answer the problem: What causes problem gambling?

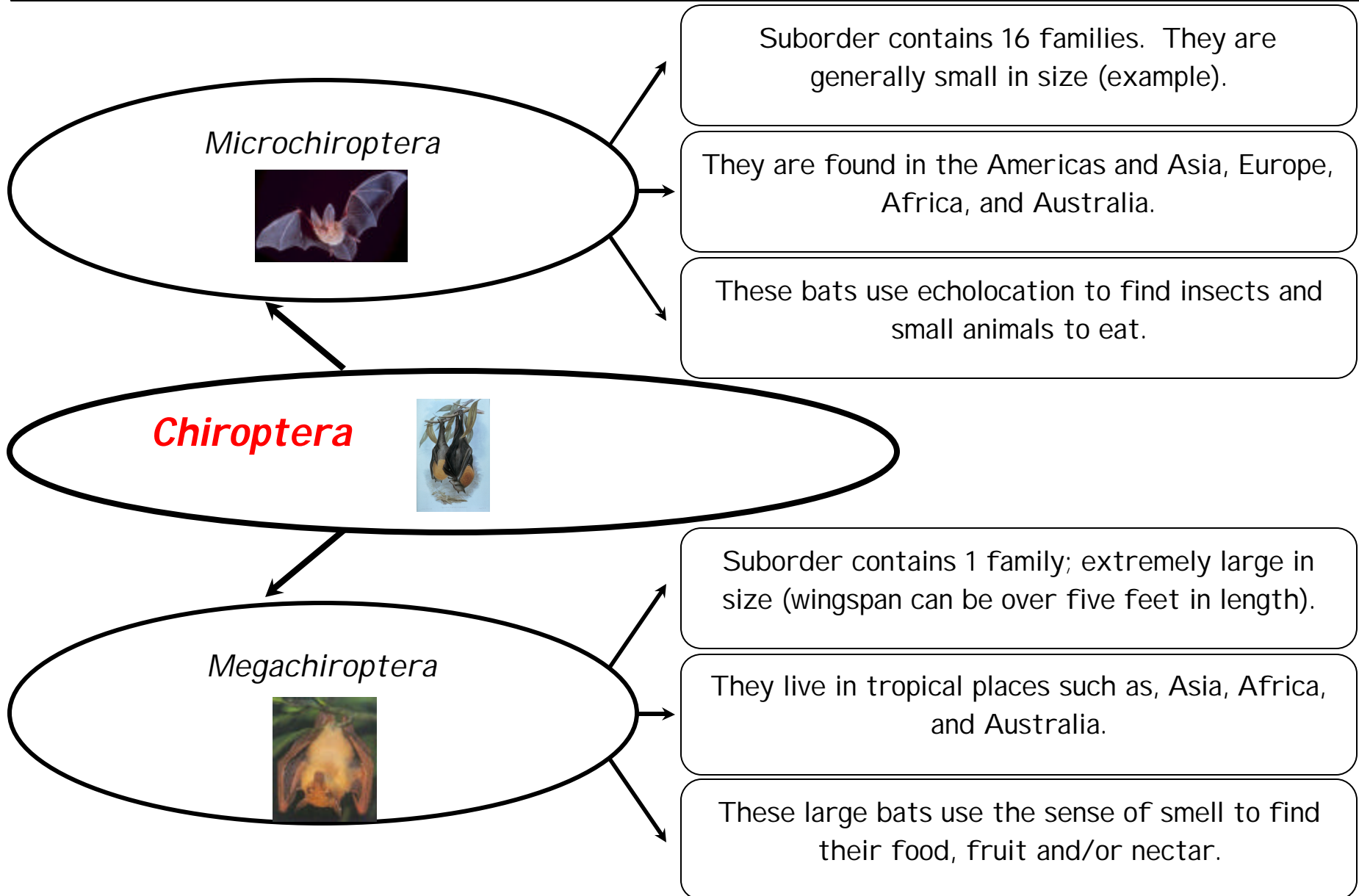
So what? What is important to understand about this?

There are many good theories that study human behaviors and environmental conditions that lead to certain behaviors, but unless you have some true and hard measurable data it is difficult to show evidence of success

*** Bats ***

Is about...

The different orders of bats and how they live



The Vampire Bat



Is about...

Special kinds of bats that only eat blood

Population and Habitat

3 Species
1. Asian False V. B.
2. Linnaeus False V. B.
3. Peter's Woolly False V. B.

Live in Mexico, Central and South America

Colonies of 20-100 individuals

Only come out when it is very dark

Characteristics

Body is the size of a human's thumb

Wingspan of 14-16 inches

Heat-seeking nose

Razor-sharp teeth

Food

Feed solely on blood

Feed 2-3 times daily

Most eat bird blood, but some prefer the blood of livestock such as cows, goats, etc

Bite and lap blood from the wound (Do not suck blood like in the movies)

Behavior

Quick reflexes are important to avoid unpredictable responses of large prey

Approach prey from the ground

Terrestrial movements: Move agilely, stealthily, walking, running and hopping

Males do not form social ties in roost

So what? What is important to understand about this?

Children will understand that Vampire Bats are not blood sucking demons.

Topic A

Topic B

Birds

Bats

Different

Same

Different

Birds

1. Are adapted to fly
2. Wings are made of feathers
3. Lay eggs to reproduce
4. Feed from mother's mouth
5. Have only feet, no hands
6. Hatched from eggs
7. Sleep at night in upright position
8. Migrate or remain in their year-round habitat

- Both can fly
- Both have wings
- Both eat insects
- Both are warm blooded
- Both live in many different parts of the world

Bats

1. Have hair or fur
2. Born live from their mothers
3. Nurse from their mothers
4. Sleep during the day (nocturnal)
5. Have arms, hands, and feet
6. Mammals
7. Sleep upside down
8. Hibernate
9. Fly at night
10. Wings are made of membranes

Topic A

Topic B

Bald Eagle

Red-Tailed Hawk

Name: _____

Different

Same

Different

Food

They eat fish and use their talons or claws to catch them.

Carnivores

They prey on small rodents and rarely will eat poultry.

Habitat

They live near lakes, rivers, marshes, and seacoasts.

Temperate Deciduous Forest

They live in the open country of various kinds, including farmlands.

Color of Body

The Bald Eagle has a white head and tail and a blackish body.

The Bald Eagle usually has a white chest with a rust-colored tail.

Number of Eggs Laid

Their eggs are white.

The females lay two to three eggs at a time.

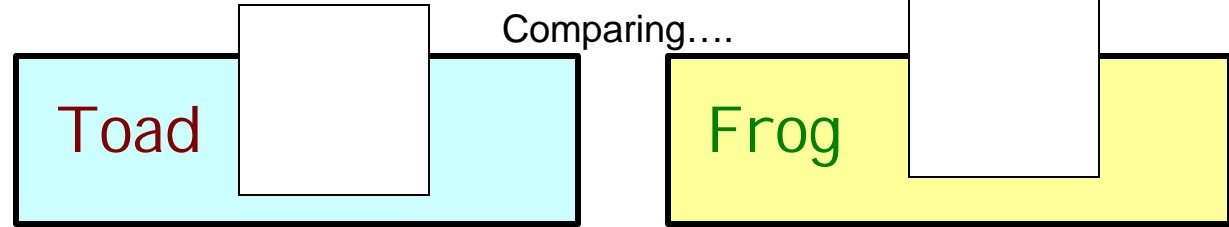
Their eggs are white with brown spots.

Nests

They create their nests using sticks.

A nest of sticks that are placed in tall

The nest is made with not only sticks, but shreds of bark and bits of fresh green vegetation.



Main ideas

Details

Details

- Skin
- Leg
- Habitat
- Food
- Reproduction
-

Dry and bumpy

Wet and Smooth

Short legs allowing only small hops

Long legs allowing long leaps

Mountains, Prairies, Deserts, and Gardens

Rivers, streams, lakes, ponds, swamps

Mainly insects and arthropods

Eats almost anything that moves- flies, crickets, fish...

Breed during wet season and lay a stream of eggs in the water. Eggs turn into tadpoles.

Lay eggs in the water. The eggs hatch into tadpoles

So what? What is important to understand about this?

Frogs and toads are similar in some ways, but they are different in many other ways.

Turtles

Main Idea

Shell

Essential Details

Hard or Soft

Aquatic or Land

Carapace &
Plastron

Protects the
turtle's body

Main Idea

Food

Essential Details

Fish

Vegetables

Carrions

Worms

Main Idea

Characteristics

Essential Details

Females larger
than males

Bury their eggs

Colors range from
black to albino

Leathery, scaly
skin

So what? What is important to understand about this?

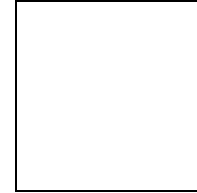
The traits and characteristics of turtles.

How Snakes Smell Their Prey

Step 1

Flicks out its tongue

as it slithers about, moving its head in different directions.



Step 2

Tongue collects different scents

by picking up particles from the air or ground.

Step 3

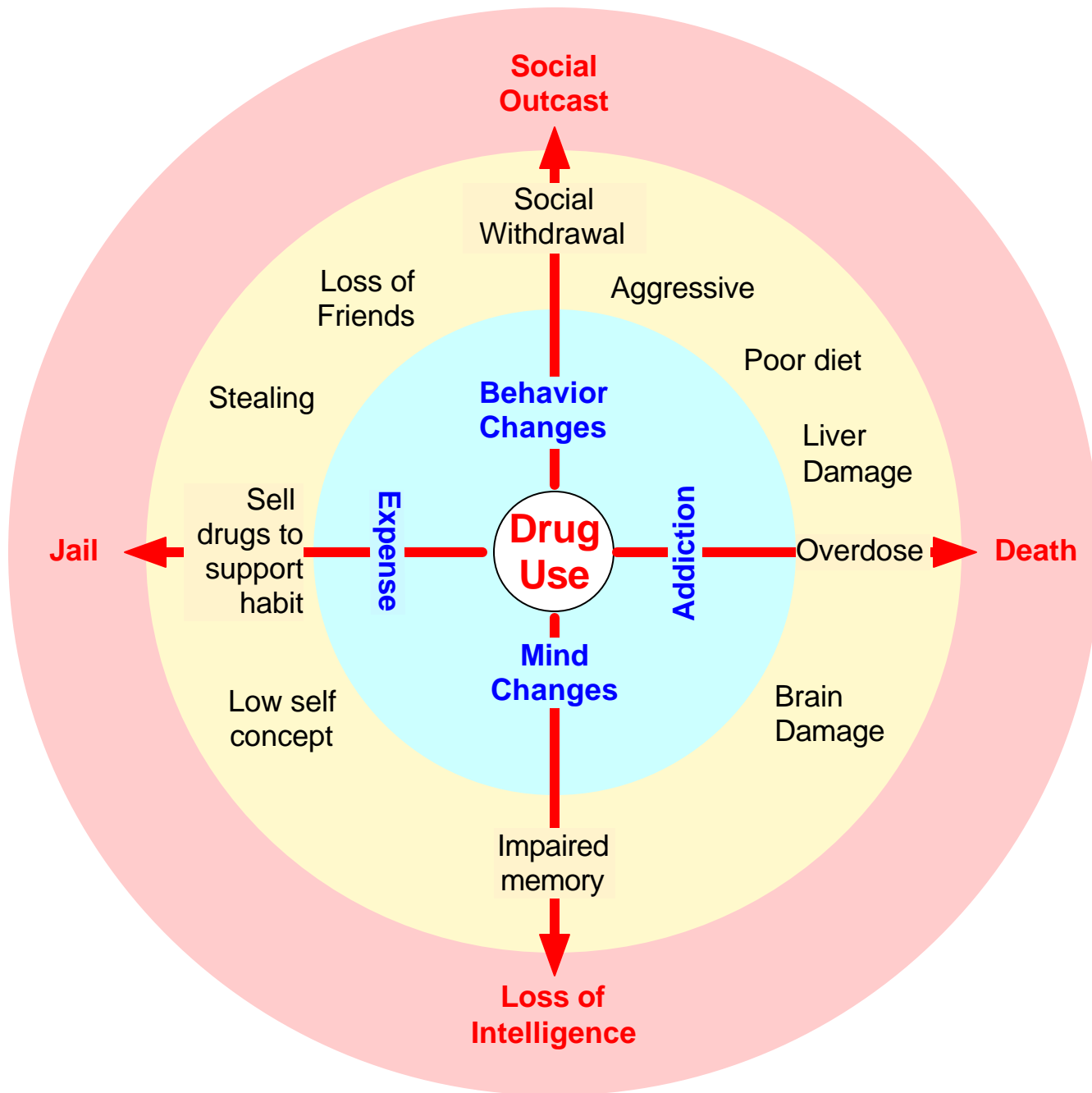
Tongue carries particles to Jacobson's organ.

Step 4

Jacobson's organ allows snake to locate prey

Why are these steps important?

It allows the snake to find food.

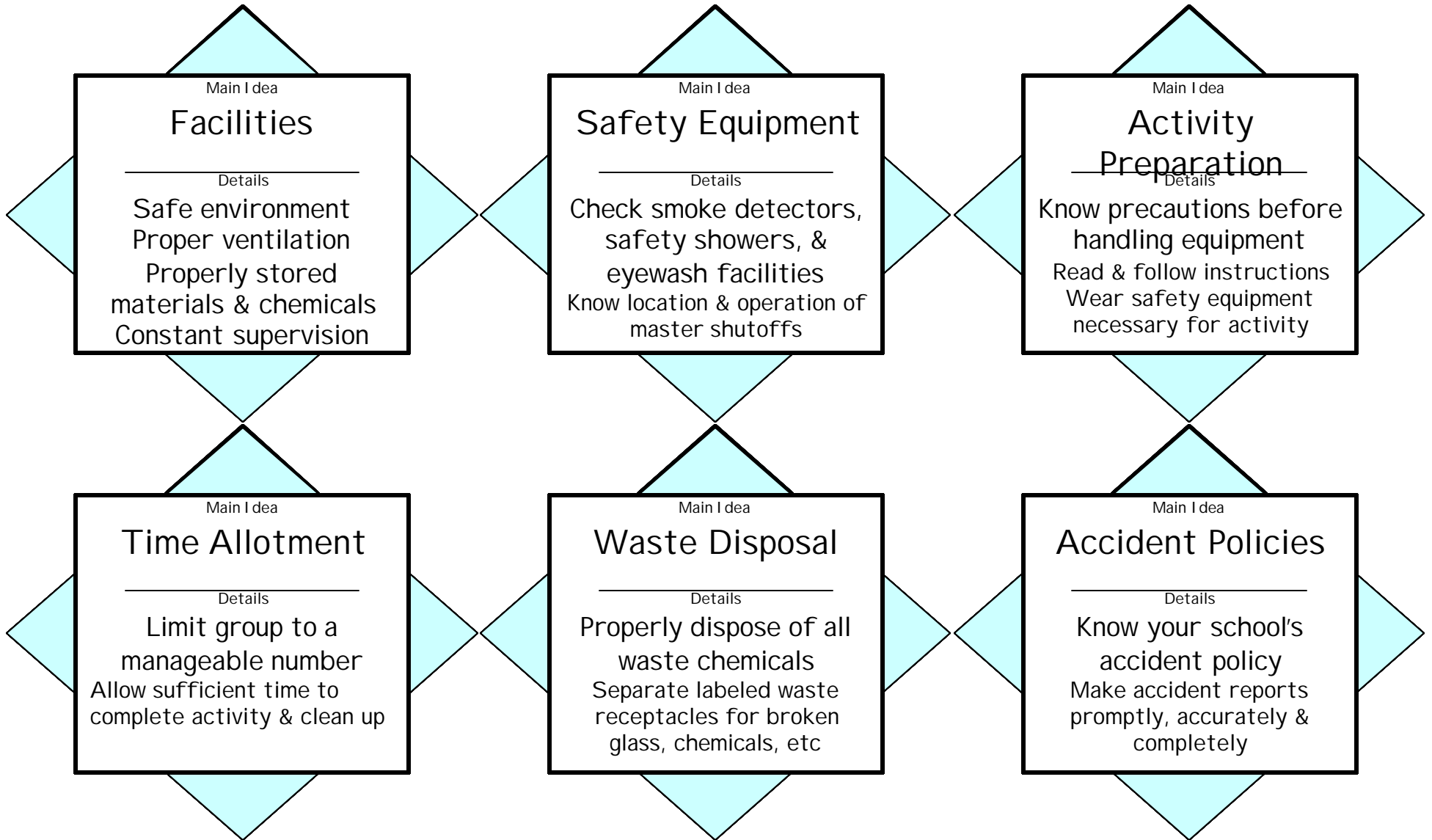


Relationship of Cardio-Respiratory Risk factors

	CAN YOU CONTROL THIS?	EFFECT ON CIRCULATORY SYSTEM?	EFFECT ON RESPIRATORY SYSTEM	SO WHAT?
AGE	NO	Older you get, the weaker your system	Older you get, the weaker your system	Risk increases with age, so its important to focus on factors you can control
DIET	YES	+/-	NO	High diet in saturated fats & salt increases the risk of heart disease
EXERCISE	YES	Positive impact	Positive impact	Great way to minimize negative risk factors & maintain a healthy C-R system
SMOKING	YES	Negative impact	Negative impact	Smoking is extremely hazardous to C-R system
STRESS	YES	Negative impact	Negative impact	Too much stress can lead to heart disease
GENDER	NO	Men = poor	Women = better	Men are more likely to get heart disease, so it's especially important for them to take care of themselves
HEREDITY	NO	+/-	+/-	Risk of C-R disease increases if there is a family history

TOPIC

Lab Safety Procedures



TOPIC |

The Scientific Mind

Main Idea

Important characteristics for looking at the world scientifically

Creative

Questioning

Inventive

Gist

Scientists come from many different backgrounds, but in their work they use many common tools, techniques, and habits of mind.

Observant

Methodical

Skeptical

6

