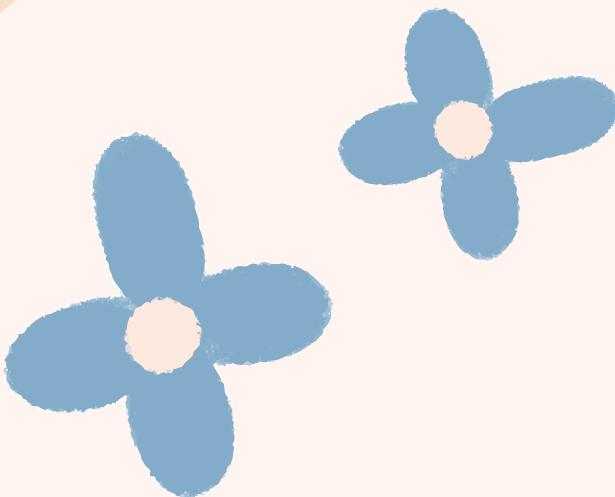




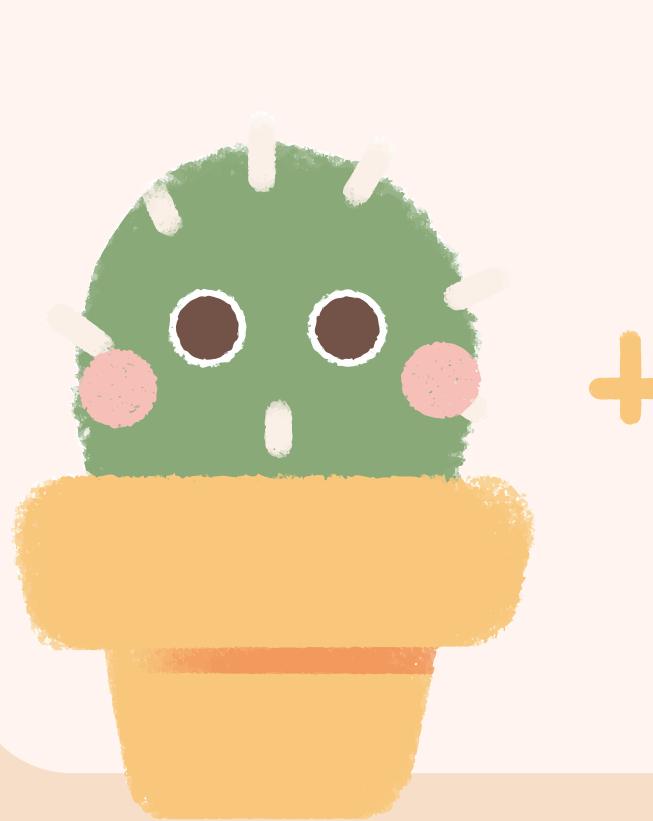
# Agile Methodology

By Dr Rubeena Doomun



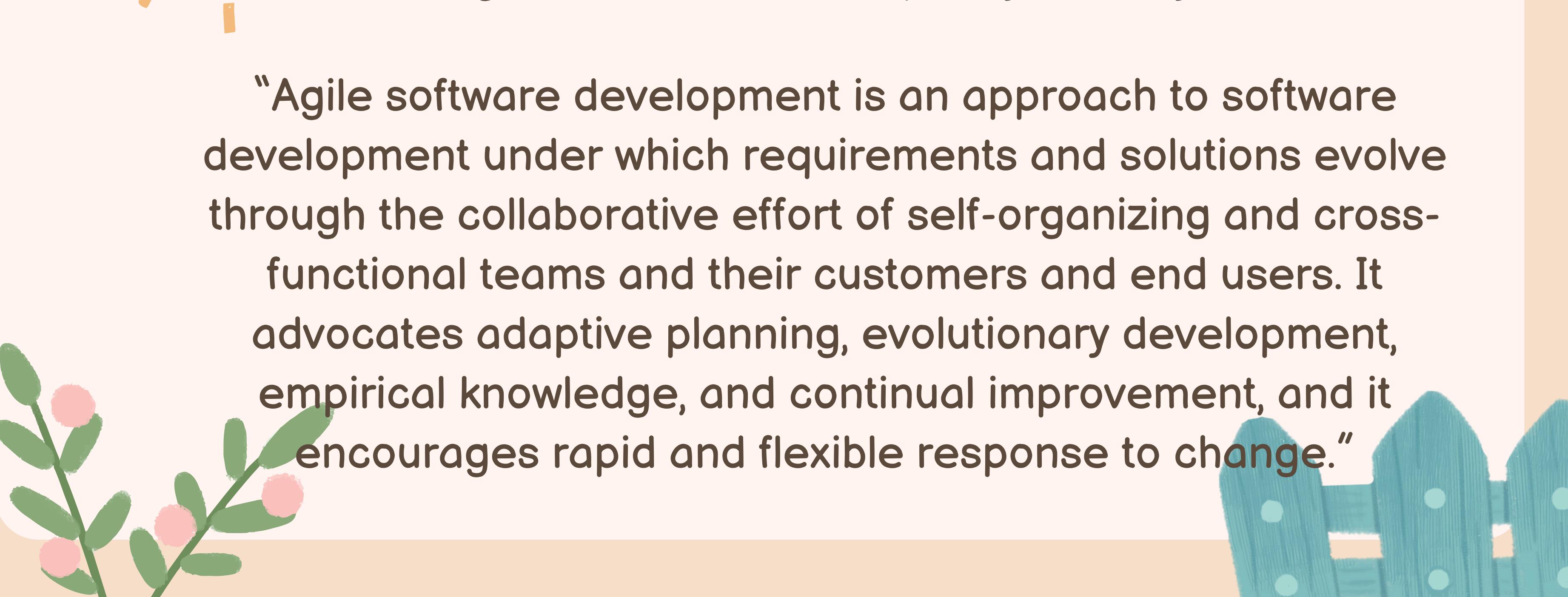
## Learning objectives



- LO1. understand the agile methodology
  - LO2. understand the agile manifesto
  - LO3. understand the concept of scrum
  - LO4. recognise the concept of sprints
- 



## Introduction

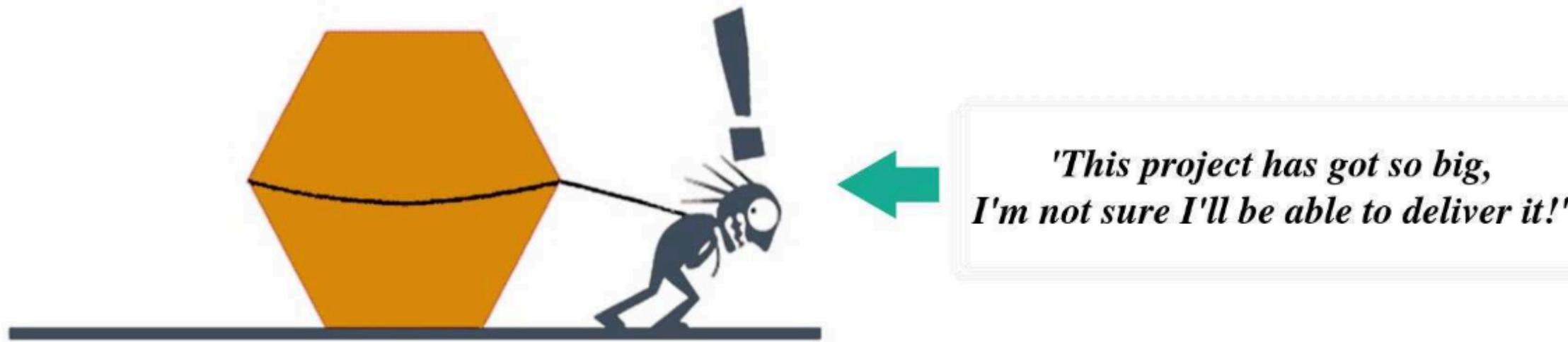


Agile means to move quickly & easily.

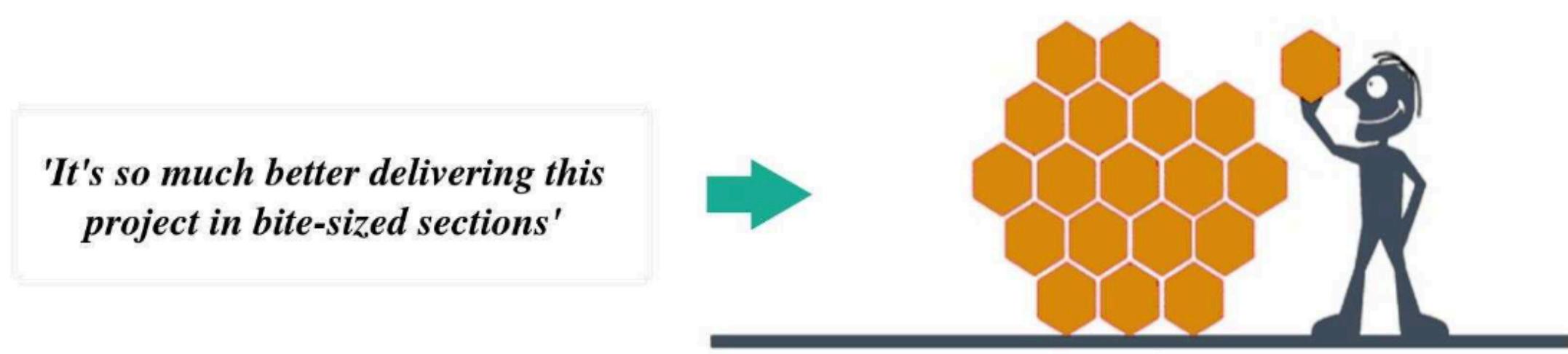
“Agile software development is an approach to software development under which requirements and solutions evolve through the collaborative effort of self-organizing and cross-functional teams and their customers and end users. It advocates adaptive planning, evolutionary development, empirical knowledge, and continual improvement, and it encourages rapid and flexible response to change.”

# Reasons to adopt Agile process

THE WATERFALL PROCESS



THE AGILE PROCESS



# Agile Methodology

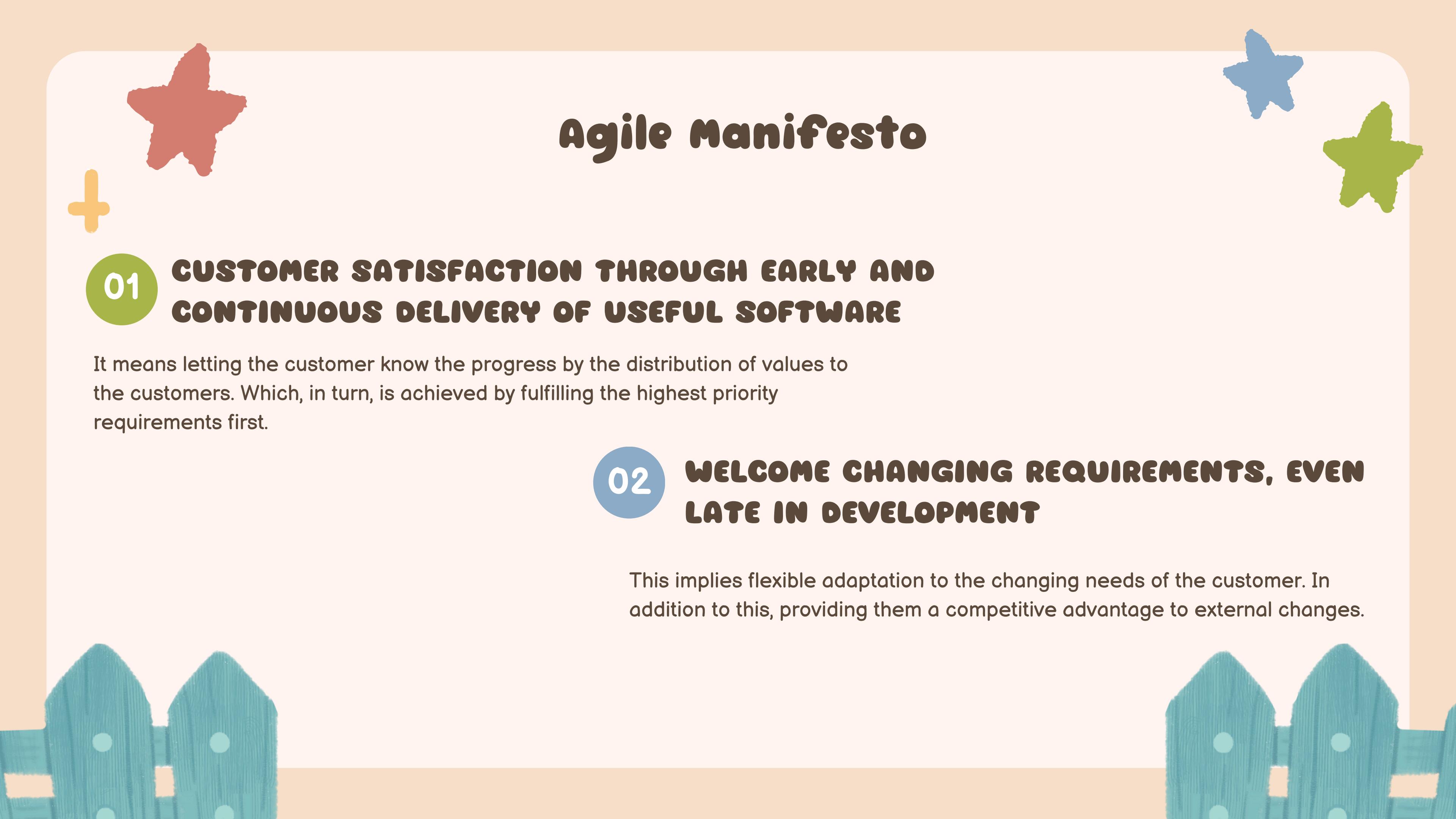
Agile methodology provides us with a framework where continuous improvements happen at different stages of the software development life cycle.

# Comparison between Agile methodology & the traditional method



## AGILE MYTHOLOGY

Agile is an iterative method of managing product development projects in a highly flexible and interactive manner. The overarching focus of agile development is frequent delivery of high-quality, working, software. Agile ensures optimal business value is delivered through ongoing alignment between technology and the business.



# Agile Manifesto

01

## CUSTOMER SATISFACTION THROUGH EARLY AND CONTINUOUS DELIVERY OF USEFUL SOFTWARE

It means letting the customer know the progress by the distribution of values to the customers. Which, in turn, is achieved by fulfilling the highest priority requirements first.

02

## WELCOME CHANGING REQUIREMENTS, EVEN LATE IN DEVELOPMENT

This implies flexible adaptation to the changing needs of the customer. In addition to this, providing them a competitive advantage to external changes.

# Agile Manifesto

03

## FREQUENTLY DELIVERED SOFTWARE

This provides immediate value to the customer by delivering working features timely.

04

## WORK TOGETHER

Close and daily cooperation between Business people and Developers by keeping documentation and requirements lightweight.

05

## TRUST AND SUPPORT

Projects are successful around motivated individuals who should be trusted.



# Agile Manifesto

## 06 FACE TO FACE CONVERSATION

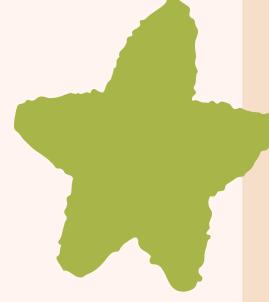
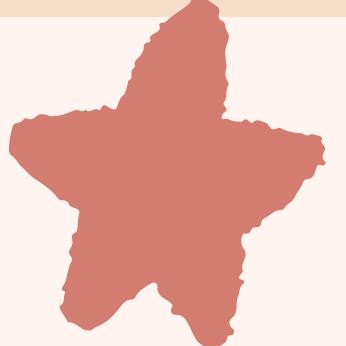
Oral communication is preferred to rule out any discrepancies and be on the same page.

## 07 WORKING SOFTWARE

It is the primary measure of progress and should be delivered timely.

## 08 SUSTAINABLE DEVELOPMENT

Agile methodology maintains the work-life balance among the team members and promotes happiness by avoiding exhaustion.



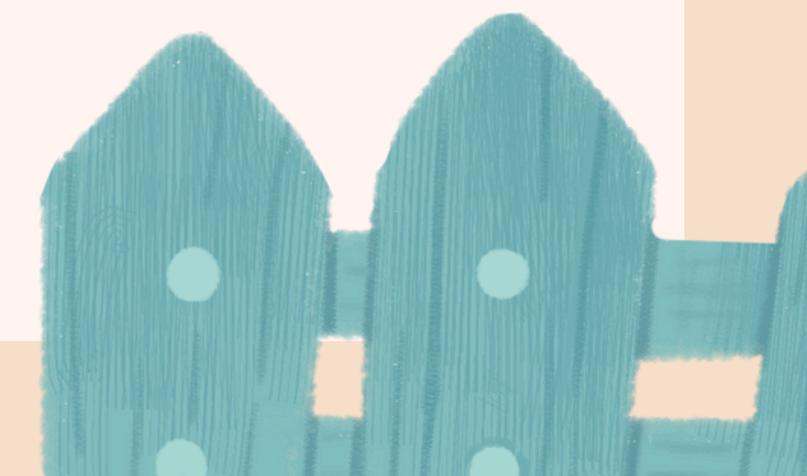
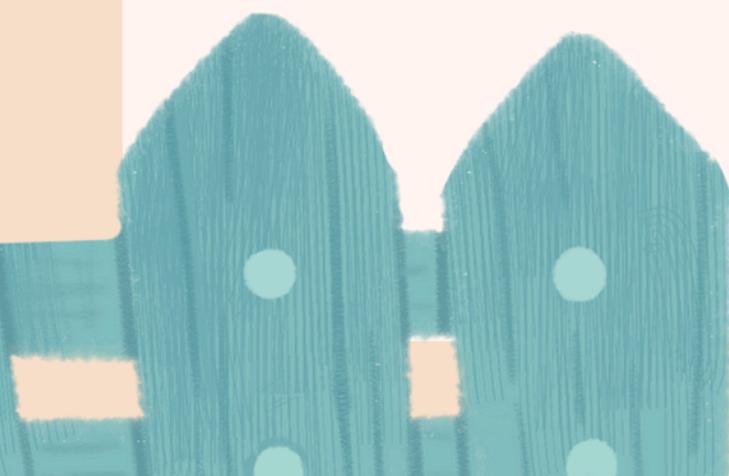
# Agile Manifesto

## 09 **CONTINUOUS ATTENTION**

Means consistent attention to technical excellence and good design enhances the agility of any team.

## 10 **SIMPLICITY**

It is the art of maximizing the amount of work not done—is essential. It uses the Pareto principle or the 80/20 rule that says that typically 80% of your results may come from only 20% of your efforts.



# Agile Manifesto

## 11 SELF-ORGANIZING TEAMS

The scrum team has autonomy and responsibility to meet the goals of the sprint.

## 12 REFLECT & ADJUST

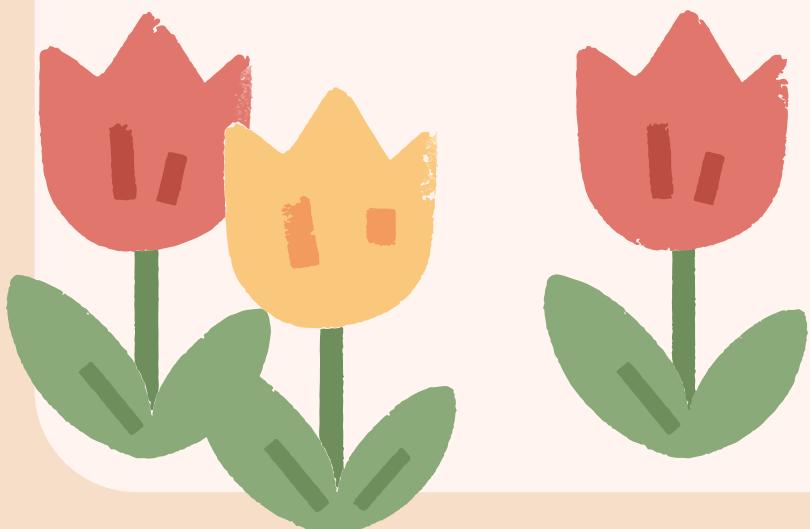
At regular intervals team reflects on how to become more productive and then adjusts accordingly. The retrospective meetings ensure the implementation of the lessons learned during the project into the next iteration.

# Some Agile Frameworks

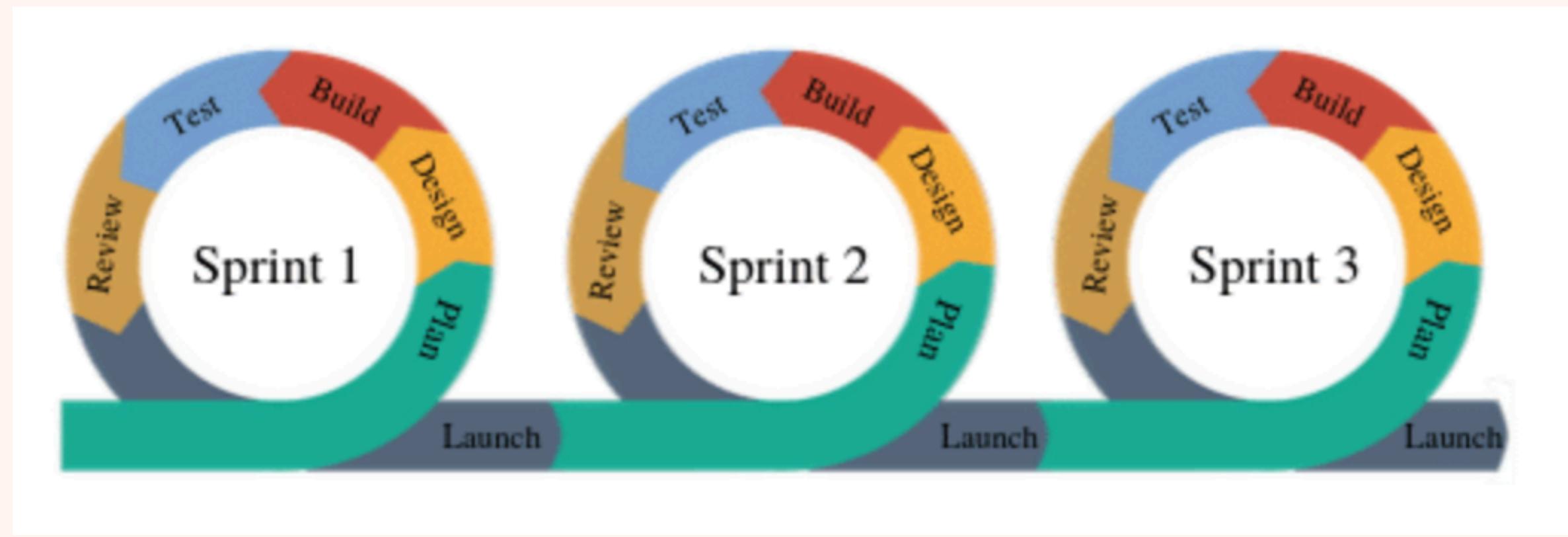
SCRUM

Kanban

Extreme  
Programming



# Plan-design-build-test-review approach



All Agile methodologies work on the above model that mainly depicts how sprints run one after another. They all follow a "plan-design-build-test-review" approach.

# SCRUM

## what is SCRUM?

Scrum is one of the most commonly used Agile methodologies. Scrums have gained popularity within the Agile software development community because they are simple and have a proven productivity rate.

Scrum focuses on Team. It is a method that concentrates specifically on how to manage tasks within a team-based development environment. Scrum believes in enabling & empowering the development team and suggests working in small teams (7 to 9 members).

The fundamental principle of Scrum is that by dividing time and projects, you can enhance an organization's effectiveness and productivity.

# SPRINT

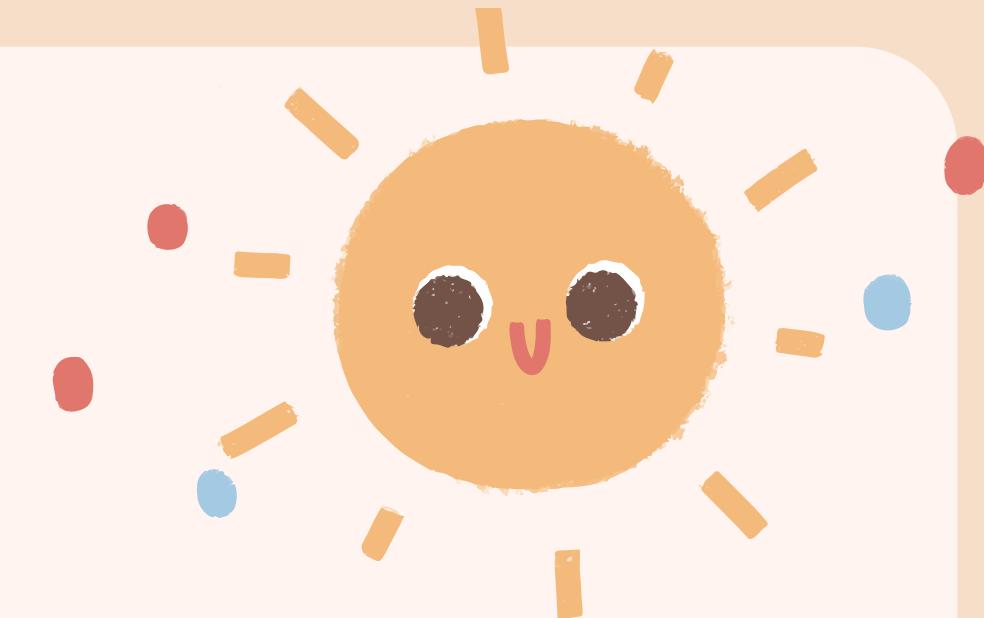
## what is SPRINT?

A sprint is a condensed period of time during which a scrum team works to complete a specific amount of work.

Scrum and agile approaches are built around sprints, and getting sprints right can help your agile team ship better product with fewer issues.

# PRODUCT BACKLOG

This list of requirements is known as "Product Backlog".

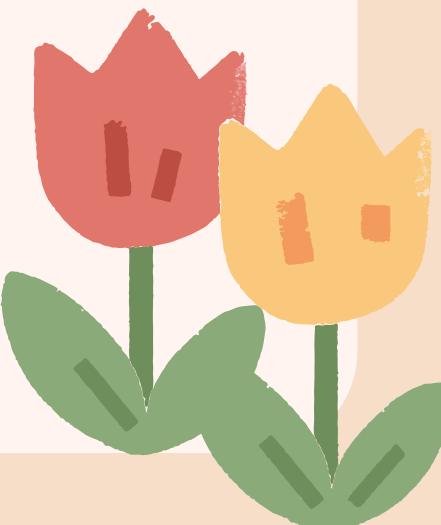


# SPRINT BACKLOG

You may like to capture these activities along with timelines in a separate document. Which, in turn, will ensure the timely completion of all the activities. This document is known as "Sprint Backlog".

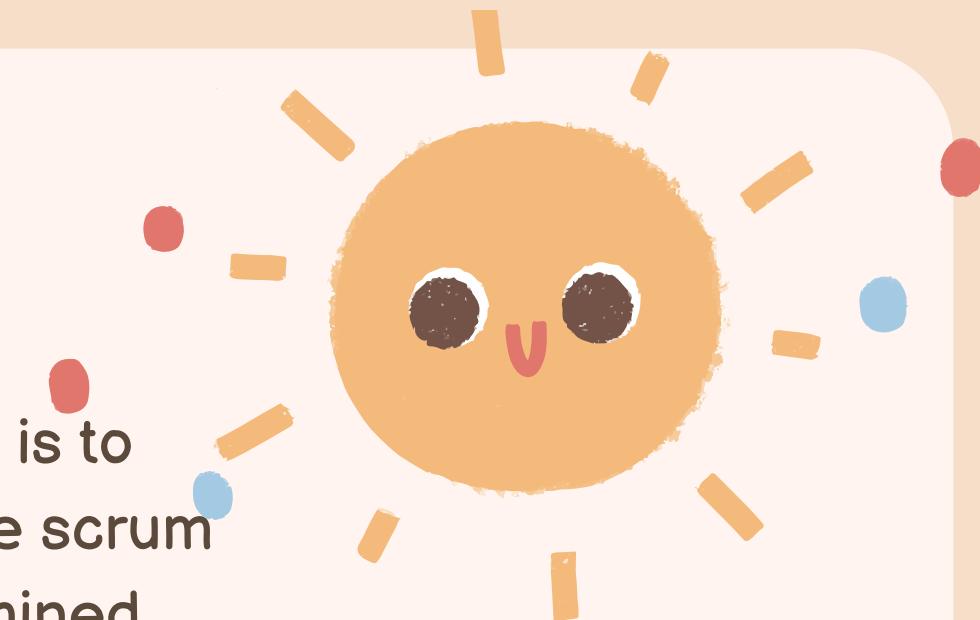
# SPRINT GOAL

The process of defining objectives to achieve is known as "Sprint Goal" or "Increment" in Scrum. For example – for Week 2, Day 1, you kept an objective to finalize the design. It is Increment.



## SPRINT PLANNING

Sprint planning is a scrum event that starts the sprint. The goal of sprint planning is to figure out what can be accomplished in a given sprint and how it will be done. The scrum team as a whole collaborates on sprint planning. In scrum, a sprint is a predetermined amount of time during which all of the work is completed.



## SPRINT REVIEW

The goal of a sprint review is to show off the efforts of the entire team, including designers, developers, and the product owner. For informal demos, team members gather around a desk and describe the work they have done for that iteration. It is a great opportunity to ask questions, try out new features, and provide feedback.

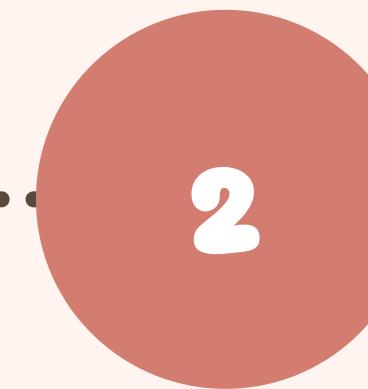


# Roles & Responsibilities in SCRUM



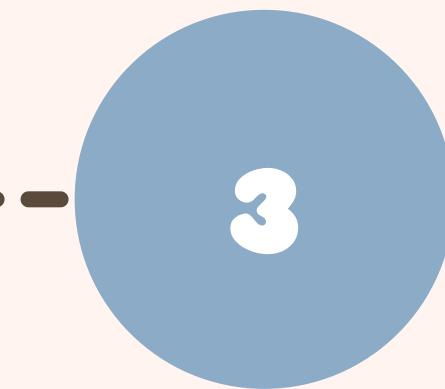
## SCRUM MASTER

Responsible for making sure that the Scrum Team adheres to the values and principles of Agile methodology. Additionally, the scrum master ensures the adherence to the processes and practices that the team agreed they would use.



## PRODUCT OWNER

Responsible for managing the product backlog to achieve the desired result that a team seeks to accomplish. The creation of the Product Owner role as part of the Scrum framework happened to address the challenges that product development teams faced. For instance, multiple & conflicting directions or no direction at all concerning what to build.

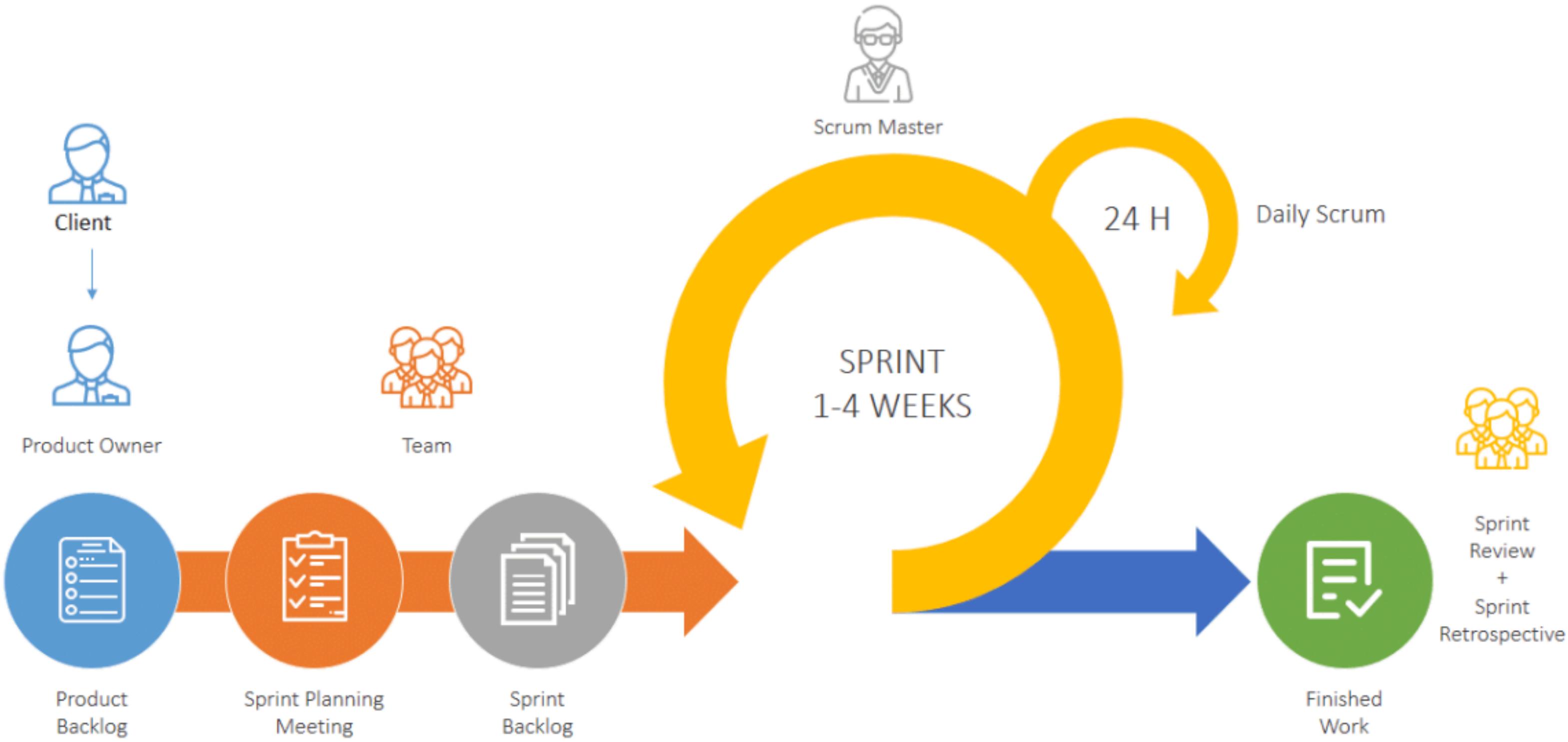


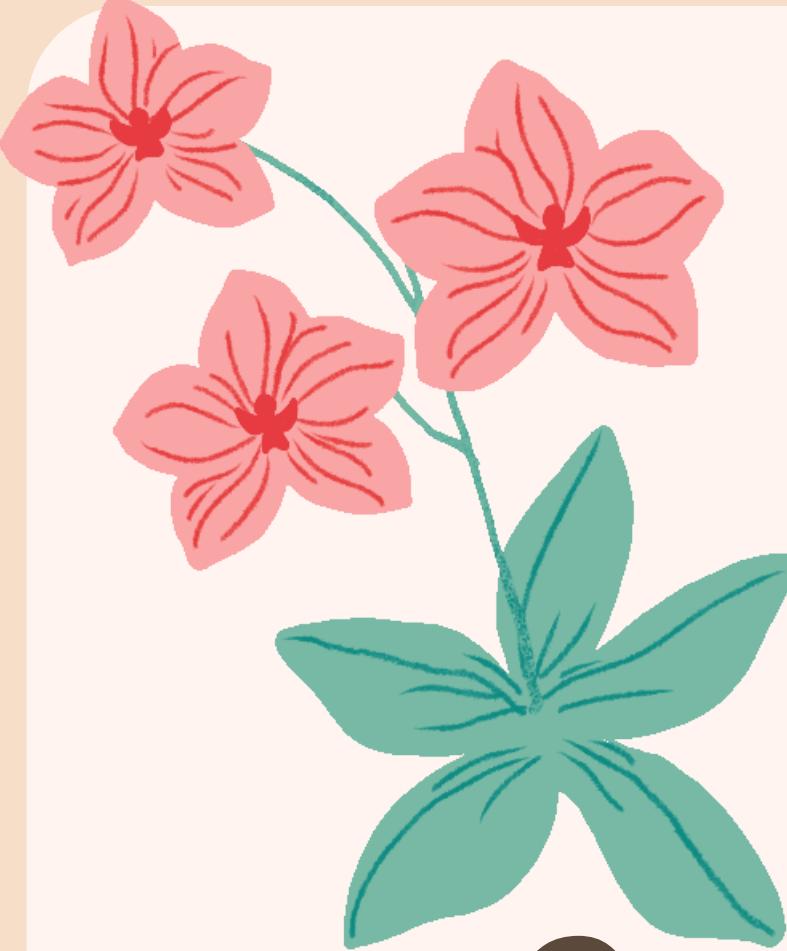
## SCRUM TEAM

Scrum Team is also known as the "Development team". It usually consists of Developers, Testers, Designers, etc. They are the ones who work on Product Backlog items. According to the Scrum Guide, the scrum team should be between three to nine people and should have all the skills necessary to deliver the product.

# Process of SCRUM

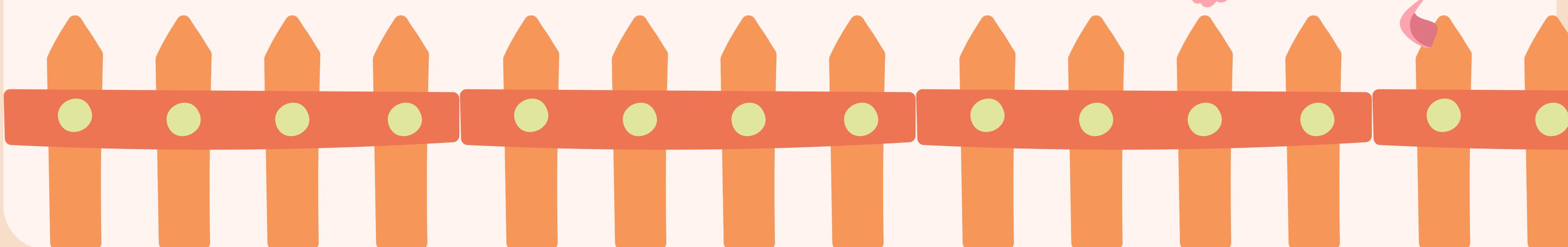
## Scrum Process

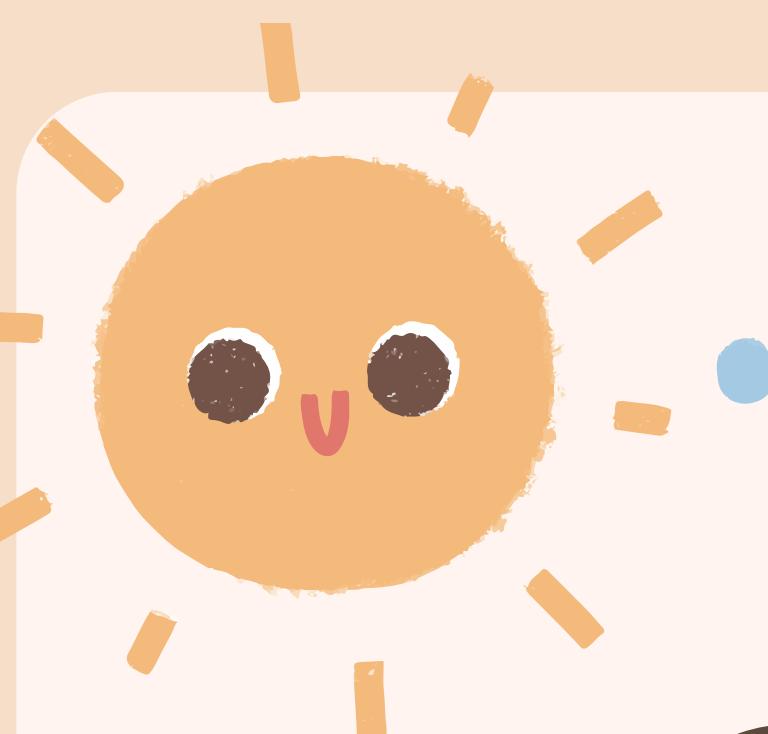




# Activity time

GOOD  
TIMES





**Thank  
you!**

